

REQUEST FOR APPROVAL

KY 2010 9/25/10 1591

1. **Type of Document:** Federal Grant Application (New) Building and Strengthening Epidemiology, Laboratory and Health Information Systems Capacity in State and Local Health Departments
Funding Opportunity Number CDC-RFA-CI10-1012

2. **Justification** To increase state and local epidemiology, laboratory, and IT capacity to improve the investigation of disease outbreaks.

3. **Funding**
State GF \$0.00 Federal Funds \$888,754.00 Agency Funds \$0.00

Other Funding Source (Explain)

4. **Submitted by:** Peggy Ellis *Peggy Ellis* 8/25/10
(Date)

5. **Branch Approval** Robert L. Brawley, M.D. *Robert L. Brawley* 8/25/10
(Date)

6. **Division program contact for corrections/questions** Sandy Kelly *Sandy Kelly* Ext. 3235
(Date)

Division Budget Analyst if applicable Jaime Wilson *Jaime R Wilson* 8/25/10
(Date)

8. **AFM State Budget** Beth Jurek *Beth Jurek*
(Date) See next page e-mail

10. **Division Approval:** Kraig Humbaugh, M.D. *Kraig Humbaugh*
(Date) Aug. 25, 2010

Division contact for document pick-up: Peggy Ellis Ext. 3572

11. **Contract or Modification Only:** Submit to Contracts and Payments Branch
Steps 1-10 must be complete; submit only original signatures
Program staff may wish to scan or copy documentation before submitting
Requests will be logged into tracking tool
Contracts and Payments staff will submit to Commissioner's Office for approval

12. **Commissioner's Office Department Approval:** William Hacker, M.D. *William Hacker*
(Date)

13. **IT** HSSMB (OATS)

08-26-10

(DATE)

Greg Martin 8/25/10
Greg Martin

Ellis, Peggy A (CHFS Surveillance and Health Data Branch)

From: Solomon, Judy (CHFS OPB)
Sent: Friday, August 20, 2010 2:18 PM
To: Okeson, Tricia (CHFS PH)
Cc: Brawley, Robert (CHFS PH EPI); Humbaugh, Kraig (CHFS PH); Mayfield, Stephanie K (CHFS-PH); Benton, Sean (CHS Lab Services); Jurek, Beth (CHFS OPB); Royce, Paul (CHS-PH); Lee, Jacquelyn (CHFS OIT HSSMB); Ellis, Peggy A (CHFS Surveillance and Health Data Branch); Benton, Sean (CHS Lab Services)
Subject: FW: Title correction

Beth and I have reviewed this grant application and Beth approved. You may proceed with submitting the grant application. If you have any questions, let me know.

Thank You

From: Jurek, Beth (CHFS OPB)
Sent: Friday, August 20, 2010 12:14 PM
To: Solomon, Judy (CHFS OPB)
Subject: FW: Title correction

From: Kelly, Sandy E (CHFS PH)
Sent: Friday, August 20, 2010 11:45 AM
To: Okeson, Tricia (CHFS PH)
Cc: Brawley, Robert (CHFS PH EPI); Humbaugh, Kraig (CHFS PH); Mayfield, Stephanie K (CHFS-PH); Lee, Jacquelyn (CHFS OIT HSSMB); Ellis, Peggy A (CHFS Surveillance and Health Data Branch); Benton, Sean (CHS Lab Services); Jurek, Beth (CHFS OPB); Royce, Paul (CHS-PH)
Subject: Title correction

Trish I was in the process of filing this and realized that the title of the grant is incorrect. I understand that this was already sent on to Ms Jurek. I have cc'd her in this email. Sorry for the last minute tidbits. Thank you for your time and consideration.



ACA- Executive
Summary 8 25 f...

Sandy

Sandy Kelly, RN MS
Nurse Service Administrator-Reportable Diseases Section
Infectious Diseases Branch
Department of Public Health
Division of Epidemiology & Health Planning
275 E. Main Street
HS2E_A

Cabinet for Health and Family Services, Department/Division as the Applicant:

Department for Public Health, Division of Epidemiology and Health Planning

Project Contact: (project manager/branch manager)

Sandy Kelly, RN MS
564-3418 ext. 3235

Title of Grant: (description)

BUILDING AND STRENGTHENING EPIDEMIOLOGY, LABORATORY AND HEALTH
INFORMATION SYSTEMS CAPACITY IN STATE AND LOCAL HEALTH DEPARTMENTS

Federal Agency/Department Awarding Funding under the Grant:

CENTERS FOR DISEASE CONTROL AND PREVENTION

Federal Identifier Grant No:

Funding Opportunity Number – CDC-RFA-CDI10-1012

Catalog of Federal Domestic Assistance:

93.521

Type of Grant Application:

Activities A, B and C, New, non-competitive

10 month proposal 9/30/2010- 7/31/2011

**** NO MATCHING FUNDS REQUIRED****

Purpose of Grant: (outline of grant activities allowable/required to be addressed in the application):

Activity A: Epidemiology Capacity: increasing and strengthening outbreak surveillance and investigation related to foodborne and health care associated infections in the state of Kentucky by providing additional epidemiologists for training and education in foodborne and HAI outbreaks to local health department, hospital and other staff as needed throughout the state.

Activity B: Laboratory Capacity: Increasing laboratory personnel, reagents and supplies to support epidemiological investigations of foodborne and HAI infections. This would involve expansion of the laboratory's current capacity as well as implementation of new technology.

Activity C: Health Information Systems Capacity: additional funding would allow for the enhancement of our current health information infrastructure for the purpose of providing electronic exchange of information within and between epidemiology and laboratory functions in the public health sector at the federal, state and local level.

Amount of the Application Funds (10 months):

| | |
|-----------------------|------------|
| Federal Funds | \$ 888,754 |
| Applicant Funds | \$0 |
| State Funds | \$0 |
| Local Funds | \$0 |
| Other | \$0 |
| Program Income | \$0 |

TOTAL FUNDS: \$ 888,754

Beth Jurek, Policy Advisor

DPH Budget Analyst

Activity A: Budget Details (Federal Share, 10 months)

| | |
|-------------------------------|------------------|
| Personnel | \$108,754 |
| Fringe | \$40,408 |
| Travel | \$3,000 |
| Equipment/ | \$9,038 |
| Supplies/Misc | \$2,000 |
| Contracts | \$57,000 |
| Other | \$0 |
| Total Direct | \$220,200 |
| Total Indirect | \$22,838 |
| Direct Assistance | \$0 |
| TOTAL FUNDS ACTIVITY A | \$243,038 |

Activity B: Budget Details (Federal Share, 10 months)

| | |
|-------------------------------|------------------|
| Personnel | \$73,453 |
| Fringe | \$31,484 |
| Travel | \$4,500 |
| Equipment/ | \$135,000 |
| Supplies/Misc | \$48,000 |
| Contracts | \$40,000 |
| Other | \$10,000 |
| Total Direct | \$342,437 |
| Total Indirect | \$15,426 |
| Direct Assistance | \$0 |
| TOTAL FUNDS ACTIVITY B | \$357,863 |

Activity C: Budget Details (Federal Share, 10 months)

| | |
|------------------|----------|
| Personnel | \$0 |
| Fringe | \$0 |
| Travel | \$16,100 |
| Equipment/ | \$0 |

| | | |
|-------------------------------|-----------|------------------|
| Supplies/Misc | \$0 | |
| Contracts | \$271,753 | |
| Other \$ | \$0 | |
| Total Direct | \$287,853 | |
| Total Indirect | \$0 | |
| Direct Assistance | \$0 | |
| TOTAL FUNDS ACTIVITY C | | \$287,853 |

Last Status Report/Summary Included: (since the last award)

N/A

Narrative Summary (summary document submitted with the grant): (detailed here)

The proposed project is designed to assist the Kentucky Department for Public Health (KDPH) in strengthening and integrating its capacity to detect and respond to infectious disease and other public health threats, through collaborations between the Division of Epidemiology and Health Planning, the Division of Laboratory Services and the Cabinet's Office of Administration and Technology Services. On the basis of its current needs, KDPH has chosen to submit a proposal that addresses and requests funding from all 3 parts of this opportunity: 1) *Activity A- Epidemiology Capacity*, 2) *Activity B- Laboratory Capacity*, and 3) *Activity C- Health Information Systems Capacity*.

In parts A and B, the proposals are to support needed improvements in epidemiological and lab capacity, particularly in the areas of surveillance and outbreak investigation of *foodborne infections* and *healthcare associated infections*. While recent improvements have been made in foodborne outbreak testing, investigation and reporting, the timeliness and accuracy of the processes can be improved. Surveillance and reporting of healthcare associated infections is in its infancy in the commonwealth. A recent federal award allowed KDPH to have its first staff member dedicated to this program. However, compared to a wave of other states that have mandated and committed resources to healthcare infection reporting, Kentucky's program is new and largely unfunded. New personnel, equipment and training are crucial to meeting the goals of these proposals.

The Part C proposal focuses on integration of the electronic information systems used by the state public health laboratory and hospital laboratories to track and report test results with public health's disease surveillance and case reporting system. The goal is to strengthen already established ties, by standardizing the codes that allow lab systems to communicate with the disease reporting systems. In the short term, the project will transform lab and epi systems, in order to allow more lab data to be easily accessed by epidemiologists in a timely manner. In anticipation of a long term goal of connecting laboratories to the Cabinet's vision of the Kentucky Health Information Exchange, the proposal includes request to begin that process during the 22-month grant period.

DATE TO THE FEDERAL GRANTING AGENCY: By 5 p.m. August 25, 2010

ACA BUDGET PROPOSAL

Activity A

Cycle One (10 Months)

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| A. Personnel | \$108,754 |
| Two (2) Medical Epidemiologists/MPH (Outbreaks, HAI, Food borne, etc) | |
| Medical Epidemiologist (1) –Outbreaks, Food borne, etc | (\$54,377 for 10 months) |
| Medical Epidemiologist (1)-HAI | (\$54,377 for 10 months) |
| B. Fringe Benefit (two (2) epidemiologists)..... | \$40,408 |
| Fringe benefits for 10 months for each epidemiologist include: | |
| FICA (7.65%) | \$4,160 |
| Retirement (16.98% 9 months) | \$8,310 |
| Retirement (19.62% 1 month)..... | \$1,067 |
| Health/ life insurance | \$6667 |
| Subtotal for each epidemiologist | \$20,204 |
| C. Travel: | \$3,000 |
| Outbreak Net Annual meeting, PulseNet Meeting \$1,500 per meeting x 2 | |
| D. Equipment/supplies | \$9,038 |
| Two (2) Laptops w/docking station for travel to LHD and training sites | |
| Laptop; \$983; laptop cases \$23 each; docking stations \$150 ea | \$2,312 |
| 3G wireless adapter + monthly service | \$1,000 |
| Two (2) Desktop computers with dual monitors & connection 833, each computer; additional monitor for dual screen \$188 ea; each connection for monitors \$92 | \$2,226 |
| Two (2) ArcGIS program (available through site license) | \$1,000 |
| Adobe Professional software | \$ 500 |
| Color printer/copier | \$2,000 |
| E. Supplies | \$2,000 |
| General supplies (DVD/CD blanks, paper, etc) | \$1000 |
| Refill cartridges for color printer | \$1000 |
| F. Contractual | \$57,000 |
| Contract for two (2) MPH university graduate students to do comprehensive foodborne illness questionnaires,e.g., Oregon shotgun, etc (900 questionnaires per student @ \$15 ea.) | \$13,500 |
| Subtotal for two students | \$27,000 |

National Healthcare Safety Network (NHSN) Training \$30,000
 (Training for hospital infection preventionists related to CDC
 Web-based database for reporting healthcare associated infections.):

- Six 4 hour, training opportunities held at multiple sites across the state
 - Facility Space rental (\$2,500 each site x 6) \$15,000
 - Educational Materials (\$1,000.00 each site x 6) \$6,000
 - CEU offerings (\$1,000.00 each site x 6) \$6,000
 - Travel for program educators (\$500 x 6) (HAI) \$3,000

G. Construction \$0

H. Other \$0

I. Total Direct \$220,200

J. Indirect cost \$22,838.

K. Total funds requested for Cycle One (10 Months) \$243,038

ACA BUDGET PROPOSAL

Activity B

Cycle One (10 Months)

| | |
|------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| A. Personnel | \$73,453 |
| Two (2) Laboratory Scientists (ELC Laboratorian & Lab Connector) | |
| Lab Scientist In-Training (1) – ELC Laboratorian (\$33,765 for 10 months) | |
| Epidemiologist One (1) – Lab Connector (\$39,688 for 10 months) | |
| B. Fringe Benefit | \$31,484 |
| Lab Scientist In-Training – | |
| Fringe benefits for 10 months include: | |
| FICA (7.65%), | \$2,583 |
| Retirement (16.98% 9 months) | \$5,160 |
| Retirement (19.62% 1 month) | \$662 |
| Health/ life insurance | \$6667 |
| Subtotal | \$15,072 |
| Epidemiologist One – Lab Connector | |
| Fringe benefits for 10 months include: | |
| FICA (7.65%), | \$3,036 |
| Retirement (16.98% 9 months) | \$5,946 |
| Retirement (19.62% 1 month) | \$763 |
| Health/ life insurance | \$6667 |
| Subtotal | \$16,412 |
| C. Travel: | \$4,500 |
| Annual Virology Symposium, Calcinet User Group Meeting, Pulsenet Update Meeting (for ELC Laboratorian or Connector) – (\$1,500 per meeting x3) | |
| D. Equipment/supplies | \$135,000 |
| Chef Mapper (PFGE of additional foodborne and HAI organisms) | \$31,000 |
| GeneXpert (start up supplies & instrument – | |
| Pertussis, C. difficile, MTB) | \$79,000 |
| Shaker Water Bath (PFGE) | \$10,000 |
| Centrifuge (PFGE) | \$10,000 |
| Electrophoresis unit (Norovirus) | \$5,000 |

| | |
|--------------------------------------------------------------------------------------|-------------------------|
| E. Supplies | \$48,000 |
| PFGE Reagents (Foodborne & HAI organisms) | \$7,000 |
| Salmonella molecular subtyping reagents | \$6,000 |
| PCR Reagents (HAI-MRSA, C. difficile) | \$6,500 |
| PCR Reagents (Campylobacter) | \$5,000 |
| PCR reagents (Vaccine Preventable Diseases) | \$10,000 |
| PCR Reagents (TB id & Drug Resistance) | \$7,500 |
| Norovirus supplies & sequencing reagents | \$5,000 |
| Proficiency Tests | \$1,000 |
| F. Contractual | \$40,000 |
| Contract for Courier Service agreement and Implementation for state (selected sites) | |
| Needed for the introduction of courier service to be used to transport isolates | |
| for PulseNet activities as well as TB, Influenza and other specimens. (\$40,000) | |
| G. Construction | \$0 |
| H. Other | \$10,000 |
| Software – Bionumerics License (Calcinet) | |
| I. Total Direct | \$342,437 |
| J. Indirect Cost | \$14,929 |
| K. Total Funds requested for Cycle One (10 Months) | <u>\$357,863</u> |

ACA BUDGET PROPOSAL
Activity C
Cycle One (10 Months)

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| A. Travel..... | \$16,100 |
| Four (4) informatics training opportunities: | |
| ○ AMIA 10x10 : https://www.amia.org/10x10 (\$2000. X 2 = \$4000.) | |
| HL7 Training: http://www.hl7.org/implement/training.cfm | |
| Web based (Estimated \$10,000) | |
| LOINC: http://loinc.org/fag/getting-started/getting-started/ (Web Based \$25 x 4 = \$100.00) | |
| APHL: http://bit.ly/9jXDhZ | |
| No fee | |
| Lodging, airfare, parking, food (\$2000.00) | |
| B. Equipment/supplies..... | \$ 0 |
| C. Supplies..... | \$0 |
| D. Contractual..... | \$ 271,753 |
| Contracted staff..... | \$ 140,580 |
| Two (2) Division of Laboratory Services Staff Members | |
| Informatician/PM (1) | (\$108, 900) |
| Lab Vocabulary Specialist (1) | (\$ 31,680) |
| Fringe Benefits..... | \$ 0 |
| Not applicable – personnel are contracted staff | |

Activity C Section 3:
(Reportable Disease filter)

| Task | Est. Cost |
|----------------------------------------------|--------------------|
| Project management | \$10,000.00 |
| Analysis: Rules for Reportable events | \$20,000.00 |
| Analysis: Message Structure | \$5,000.00 |
| Analysis: Message Routing from KHIE to NEDSS | \$2,000.00 |
| Development: Rules for reportable events | \$15,000.00 |
| Development: Message Routing | \$5,000.00 |
| Development: Content Vocabulary | \$10,000.00 |
| Testing | \$10,000.00 |
| Implementation in production environment | \$5,000.00 |
| Total | \$82,000.00 |

**Activity C Section 4:
(Harmonization budget)**

| Task | Est. Cost |
|------------------------------------------|--------------------|
| Analysis (Project management) | \$2,170.80 |
| Analysis: Content Vocabulary | \$8,487.84 |
| Analysis: Message Structure | \$1,736.64 |
| Analysis: Message Destination Routing | \$1,736.64 |
| Development (Project management) | \$1,953.72 |
| Development: Message Transformation | \$2,604.96 |
| Development: Message Destination Routing | \$1,736.64 |
| Development: Content Vocabulary | \$10,419.84 |
| Testing | \$2,604.96 |
| Testing: Message Transformation | \$6,751.20 |
| Testing: Message Vocabulary | \$6,751.20 |
| Implementation (Project management) | \$868.32 |
| Implementation in production environment | \$1,350.24 |
| Total | \$49,173.00 |

E. Construction.....\$0

F. Other.....\$0

G. Total Direct.....\$0

H. Indirect Costs.....\$0

I. Total Funds requested for Cycle One (10 Months).....\$287,853



**CABINET FOR HEALTH AND FAMILY SERVICES
OFFICE OF THE SECRETARY**

Steven L. Beshear
Governor

275 East Main Street, 5W-A
Frankfort, KY 4621
(502) 564-7042
Fax (502) 564-7091
www.chfs.ky.gov

Janie Miller
Secretary

August 24, 2010

De'lisa Simpson, Grants Management Specialist
Department of Health and Human Services
CDC Procurement and Grants Office
2920 Brandywine Road MS-
Atlanta, Georgia 30341-4168

Re: Program Announcement (CDC-RFA-CI10-1012), DUNS#9270497670000

Dear Ms. Simpson:

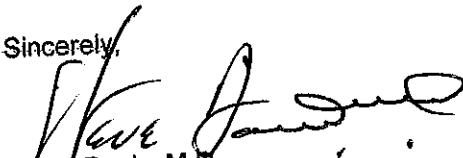
Please accept the enclosed application from the Kentucky Cabinet for Health and Family Services for the Epidemiology and Lab Capacity for Infectious Diseases (ELC), Building and Strengthening Epidemiology, Laboratory and Health Information Systems Capacity in State and Local Health Departments Grant.

The purpose of the grant is to enhance disease surveillance and outbreak investigations by increasing state capacity in epidemiology, laboratory, and health information technology. The grant request is for (FA) financial assistance in support of these efforts.

If you have any questions regarding this application, please direct them to:

Sandy Kelly
Division of Epidemiology and Health Planning
275 East Main St. HS2E-A
Frankfort, KY 40621
sandye.kelly@ky.gov

Sincerely,


Steve Davis, M.D.
Deputy Commissioner

Pertinent numbers applicable to the Kentucky Cabinet for Health and Family Services are included in this letter should they be needed. Those numbers are as follows: DUN AND BRADSTREET-- (DUNS) - 927049767; FEDERALWIDE ASSURANCE (FWA) - FWA00005155; INSTITUTIONAL REVIEW BOARD (IRB) - 00003595, IORG - 0002985; and FEDERAL EMPLOYER IDENTIFICATION NUMBER (FEIN) - 61-0600439.

Kentucky
UNBRIDLED SPIRIT

KentuckyUnbridledSpirit.com

An Equal Opportunity Employer M/F/D

Version 02

Application for Federal Assistance SF-424

| | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--|
| * 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application | | * 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision | | * If Revision, select appropriate letter(s): <input type="text"/> * Other (Specify) <input type="text"/> | |
| * 3. Date Received: 08/25/2010 | | 4. Applicant Identifier: <input type="text"/> | | | |
| 5a. Federal Entity Identifier: <input type="text"/> | | | * 5b. Federal Award Identifier: <input type="text"/> | | |
| State Use Only: | | | | | |
| 6. Date Received by State: <input type="text"/> | | 7. State Application Identifier: <input type="text"/> | | | |
| 8. APPLICANT INFORMATION: | | | | | |
| * a. Legal Name: Cabinet for Health and Family Services | | | | | |
| * b. Employer/Taxpayer Identification Number (EIN/TIN): 61-0600439 | | | * c. Organizational DUNS: 9270497670000 | | |
| d. Address: | | | | | |
| * Street1: | | 275 East Main Street | | | |
| Street2: | | <input type="text"/> | | | |
| * City: | | Frankfort | | | |
| County: | | Franklin | | | |
| * State: | | KY: Kentucky | | | |
| Province: | | <input type="text"/> | | | |
| * Country: | | USA: UNITED STATES | | | |
| * Zip / Postal Code: | | 40621 | | | |
| e. Organizational Unit: | | | | | |
| Department Name: Department for Public Health | | | Division Name: Epidemiology and Health Planni | | |
| f. Name and contact information of person to be contacted on matters involving this application: | | | | | |
| Prefix: | | * First Name: | | Peggy | |
| Middle Name: | | <input type="text"/> | | | |
| * Last Name: | | Ellis | | | |
| Suffix: | | <input type="text"/> | | | |
| Title: Medical Epidemiologist | | | | | |
| Organizational Affiliation: Cabinet for Health and Family Services | | | | | |
| * Telephone Number: 502-564-3418 | | | Fax Number: 502-696-3803 | | |
| * Email: peggya.ellis@ky.gov | | | | | |

Version 02

Application for Federal Assistance SF-424

9. Type of Applicant 1: Select Applicant Type:

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

* 10. Name of Federal Agency:

Centers for Disease Control and Prevention

11. Catalog of Federal Domestic Assistance Number:

93.521

CFDA Title:

The Affordable Care Act: Building Epidemiology, Laboratory, and Health Information Systems Capacity in the Epidemiology

* 12. Funding Opportunity Number:

CDC-RFA-CI10-1012

* Title:

EPIDEMIOLOGY AND LABORATORY CAPACITY FOR INFECTIOUS DISEASES (ELC) BUILDING AND STRENGTHENING EPIDEMIOLOGY, LABORATORY AND HEALTH INFORMATION SYSTEMS CAPACITY IN STATE AND LOCAL HEALTH DEPARTMENTS

13. Competition Identification Number:

NCPDCID-NR

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Commonwealth of Kentucky

* 15. Descriptive Title of Applicant's Project:

Improving Kentucky's disease and outbreak surveillance and investigation through increased surveillance, laboratory, and health information systems capacity.

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Version 02

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant

Sixth

* b. Program/Project

Sixth

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:

* a. Start Date:

10/01/2010

* b. End Date:

07/31/2011

18. Estimated Funding (\$):

| | |
|---------------------|------------|
| * a. Federal | 888,754.00 |
| * b. Applicant | 0.00 |
| * c. State | 0.00 |
| * d. Local | 0.00 |
| * e. Other | 0.00 |
| * f. Program Income | 0.00 |
| * g. TOTAL | 888,754.00 |

* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?

08/25/2010

- ☒ a. This application was made available to the State under the Executive Order 12372 Process for review on
- ☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- ☐ c. Program is not covered by E.O. 12372.

* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

☐ Yes☒ No

Explanation:

21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:

Dr.

* First Name:

Steve

Middle Name:

* Last Name:

Davis

Suffix:

M.D.

* Title:

Deputy Commissioner

* Telephone Number:

502-564-3970

Fax Number:

502-564-9377

* Email:

steve.davis@ky.gov

* Signature of Authorized Representative:

* Date Signed:

08/25/2010

Authorized for Local Reproduction

Standard Form 424 (Revised 10/2005)
Prescribed by OMB Circular A-102

Application for Federal Assistance SF-424

Version 02

*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

BUDGET INFORMATION - Non-Construction Programs

SECTION A - BUDGET SUMMARY

| Grant Program Function or Activity (a) | Catalog of Federal Domestic Assistance Number (b) | Estimated Unobligated Funds | | New or Revised Budget | | | Total (g) |
|--------------------------------------------------------------------------|------------------------------------------------------------|-----------------------------|--------------------|-----------------------|--------------------|---------------|--------------|
| | | Federal (c) | Non-Federal (d) | Federal (e) | Non-Federal (f) | | |
| 1. Activity A CDC-REFA-CI10-1012 Building and Strengthening ELC | 93.521 | \$ 243,038.00 | \$ 0.00 | \$ | \$ | \$ 243,038.00 | |
| 2. Activity B | 93.521 | 357,863.00 | | | | 357,863.00 | |
| 3. Activity C | 93.521 | 287,853.00 | | | | 287,853.00 | |
| 4. | | | | | | | |
| 5. Totals | | \$ 888,754.00 | \$ | \$ | \$ | \$ 888,754.00 | |

SECTION B - BUDGET CATEGORIES

| 6. Object Class Categories | GRANT PROGRAM, FUNCTION OR ACTIVITY | | | | Total (5) |
|----------------------------------------|-----------------------------------------------------------------------------|-------------------|---------------|--------------------------|--------------|
| | (1) Activity A CDC-RFA-C110-1012 Building and Strengthening EIC | (2) Activity B | (3) | (4) Activity C N/A | |
| a. Personnel | \$ 108,754.00 | \$ 73,453.00 | \$ 0.00 | \$ | 182,207.00 |
| b. Fringe Benefits | 40,408.00 | 31,484.00 | 0.00 | | 71,892.00 |
| c. Travel | 3,000.00 | 4,500.00 | 16,100.00 | | 23,600.00 |
| d. Equipment | 9,038.00 | 135,000.00 | 0.00 | | 144,038.00 |
| e. Supplies | 2,000.00 | 48,000.00 | 0.00 | | 50,000.00 |
| f. Contractual | 57,000.00 | 40,000.00 | 271,753.00 | | 368,753.00 |
| g. Construction | 0.00 | 0.00 | 0.00 | | |
| h. Other | 0.00 | 10,000.00 | 0.00 | | 10,000.00 |
| i. Total Direct Charges (sum of 6a-6h) | 220,200.00 | 342,437.00 | 287,853.00 | | 850,490.00 |
| j. Indirect Charges | 22,838.00 | 15,426.00 | 0.00 | | 38,264.00 |
| k. TOTALS (sum of 6i and 6j) | \$ 243,038.00 | \$ 357,863.00 | \$ 287,853.00 | \$ | 888,754.00 |
| 7. Program Income | \$ 0.00 | \$ 0.00 | \$ 0.00 | \$ | \$ |

| SECTION C - NON-FEDERAL RESOURCES | | | | | |
|---------------------------------------------------------------------------------|---------------|------------------------------------|-------------------|---------------|---------------|
| (a) Grant Program | (b) Applicant | (c) State | (d) Other Sources | (e) TOTALS | |
| 8. Activity A | \$ 888,754.00 | \$ 0.00 | \$ 0.00 | \$ 888,754.00 | \$ 0.00 |
| 9. Activity B | \$ 0.00 | \$ 0.00 | \$ 0.00 | \$ 0.00 | \$ 0.00 |
| 10. Activity C | \$ 0.00 | \$ 0.00 | \$ 0.00 | \$ 0.00 | \$ 0.00 |
| 11. | \$ 888,754.00 | \$ 0.00 | \$ 0.00 | \$ 888,754.00 | \$ 0.00 |
| SECTION D - FORECASTED CASH NEEDS | | | | | |
| 12. TOTAL (sum of lines 8-11) | \$ 888,754.00 | \$ 0.00 | \$ 0.00 | \$ 888,754.00 | \$ 0.00 |
| SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT | | | | | |
| FUTURE FUNDING PERIODS (YEARS) | | | | | |
| (a) Grant Program | (b) First | (c) Second | (d) Third | (e) Fourth | |
| 16. Activity A | \$ 243,038.00 | \$ 255,190.00 | \$ 0.00 | \$ 222,188.50 | \$ 222,188.50 |
| 17. Activity B | \$ 357,863.00 | \$ 375,756.00 | \$ 0.00 | \$ 222,188.50 | \$ 222,188.50 |
| 18. Activity C | \$ 287,853.00 | \$ 302,246.00 | \$ 0.00 | \$ 222,188.50 | \$ 222,188.50 |
| 19. | \$ 888,754.00 | \$ 933,192.00 | \$ 0.00 | \$ 222,188.50 | \$ 222,188.50 |
| SECTION F - OTHER BUDGET INFORMATION | | | | | |
| 20. TOTAL (sum of lines 16 - 19) | \$ 850,490.00 | \$ 888,754.00 | \$ 933,192.00 | \$ 222,188.50 | \$ 222,188.50 |
| 21. Direct Charges: | \$ 850,490.00 | 22. Indirect Charges: \$ 38,264.00 | | | |
| 23. Remarks: | | | | | |

Project Abstract Summary

Program Announcement (CFDA)

93.521

*** Program Announcement (Funding Opportunity Number)**

CDC-RFA-CI10-1012

*** Closing Date**

08/27/2010

*** Applicant Name**

Cabinet for Health and Family Services

*** Length of Proposed Project**

10

Application Control No.**Federal Share Requested (for each year)***** Federal Share 1st Year**

\$ 888,754

*** Federal Share 4th Year**

\$ 0

*** Federal Share 2nd Year**

\$ 933,192

*** Federal Share 5th Year**

\$ 0

*** Federal Share 3rd Year**

\$ 0

Non-Federal Share Requested (for each year)*** Non-Federal Share 1st Year**

\$ 0

*** Non-Federal Share 4th Year**

\$ 0

*** Non-Federal Share 2nd Year**

\$ 0

*** Non-Federal Share 5th Year**

\$ 0

*** Non-Federal Share 3rd Year**

\$ 0

*** Project Title**

Improving Kentucky's disease and outbreak surveillance and investigation through increased surveillance, laboratory, and health information systems capacity.

Project Abstract Summary

* Project Summary

The proposed project is designed to assist the Kentucky Department for Public Health (KDPH) in strengthening and integrating its capacity to detect and respond to infectious disease and other public health threats, through collaborations between the Division of Epidemiology and Health Planning, the Division of Laboratory Services and the Cabinet's Office of Administration and Technology Services. On the basis of its current needs, KDPH has chosen to submit a proposal that addresses and requests funding from all 3 parts of this opportunity: 1) Activity A- Epidemiology Capacity, 2) Activity B- Laboratory Capacity, and 3) Activity C- Health Information Systems Capacity.

In parts A and B, the proposals are to support needed improvements in epidemiological and lab capacity, particularly in the areas of surveillance and outbreak investigation of foodborne infections and healthcare associated infections. While recent improvements have been made in foodborne outbreak testing, investigation and reporting, the timeliness and accuracy of the processes can be improved. Surveillance and reporting of healthcare associated infections is in its infancy in the commonwealth. A recent federal award allowed KDPH to have its first staff member dedicated to this program. However, compared to a wave of other states that have mandated and committed resources to healthcare infection reporting, Kentucky's program is new and largely unfunded. New personnel, equipment and training are crucial to meeting the goals of these proposals.

The Part C proposal focuses on integration of the electronic information systems used by the state public health laboratory and hospital laboratories to track and report test results with public health's disease surveillance and case reporting system. The goal is to strengthen already established ties, by standardizing the codes that allow lab systems to communicate with the disease reporting systems. In the short term, the project will transform lab and epi systems, in order to allow more lab data to be easily accessed by epidemiologists in a timely manner. In anticipation of a long term goal of connecting laboratories to the Cabinet's vision of the Kentucky Health Information Exchange, the proposal includes request to begin that process during the 22-month grant period.

* Estimated number of people to be served as a result of the award of this grant.

4300000

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

0348-0046

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 1. * Type of Federal Action: <input type="checkbox"/> a. contract <input checked="" type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance | 2. * Status of Federal Action: <input type="checkbox"/> a. bld/offer/application <input checked="" type="checkbox"/> b. Initial award <input type="checkbox"/> c. post-award | 3. * Report Type: <input checked="" type="checkbox"/> a. Initial filing <input type="checkbox"/> b. material change |
| 4. Name and Address of Reporting Entity: <input checked="" type="checkbox"/> Prime <input type="checkbox"/> SubAwardee | | |
| * Name: <input type="text" value="N/A"/> | | |
| * Street 1: <input type="text" value="N/A"/> Street 2: <input type="text"/> Zip: <input type="text"/> | | |
| * City: <input type="text" value="N/A"/> State: <input type="text"/> | | |
| Congressional District, if known: <input type="text"/> | | |
| 5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime: | | |
| 6. * Federal Department/Agency: <input type="text" value="n/a"/> | | |
| 7. * Federal Program Name/Description: The Affordable Care Act: Building Epidemiology, Laboratory, and Health Information Systems Capacity in the Epidemiology CFDA Number, if applicable: <input type="text" value="93.521"/> | | |
| 8. Federal Action Number, if known: <input type="text" value="N/A"/> | | |
| 9. Award Amount, if known: \$ <input type="text"/> | | |
| 10. a. Name and Address of Lobbying Registrant: | | |
| Prefix: <input type="text"/> * First Name: <input type="text" value="N/A"/> Middle Name: <input type="text"/> | | |
| * Last Name: <input type="text" value="N/A"/> Suffix: <input type="text"/> | | |
| * Street 1: <input type="text"/> Street 2: <input type="text"/> Zip: <input type="text"/> | | |
| * City: <input type="text"/> State: <input type="text"/> | | |
| b. Individual Performing Services (including address if different from No. 10a) | | |
| Prefix: <input type="text"/> * First Name: <input type="text" value="N/A"/> Middle Name: <input type="text"/> | | |
| * Last Name: <input type="text" value="N/A"/> Suffix: <input type="text"/> | | |
| * Street 1: <input type="text"/> Street 2: <input type="text"/> Zip: <input type="text"/> | | |
| * City: <input type="text"/> State: <input type="text"/> | | |
| 11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the filer above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure. | | |
| * Signature: <input type="text" value="Peggy Ellis"/> | | |
| * Name: Prefix: <input type="text"/> * First Name: <input type="text" value="N/A"/> Middle Name: <input type="text"/> | | |
| * Last Name: <input type="text" value="N/A"/> Suffix: <input type="text"/> | | |
| Title: <input type="text"/> Telephone No.: <input type="text"/> Date: <input type="text" value="08/25/2010"/> | | |

CHECKLIST

Public Burden Statement:

Public reporting burden of this collection of information is estimated to average 4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC,

Clearance Officer, 1600 Clifton Road, MS D-24, Atlanta, GA 30333, ATTN: PRA (0920-0428). Do not send the completed form to this address.

NOTE TO APPLICANT:

This form must be completed and submitted with the original of your application. Be sure to complete both sides of this form. Check the appropriate boxes and provide the information requested. This form should be attached as the last page of the signed original of the application. This page is reserved for PHS staff use only.

Type of Application: ☒ NEW ☐ Noncompeting Continuation ☐ Competing Continuation ☐ Supplemental

PART A: The following checklist is provided to assure that proper signatures, assurances, and certifications have been submitted.

- | | Included | NOT Applicable |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| 1. Proper Signature and Date | <input checked="" type="checkbox"/> | |
| 2. Proper Signature and Date on PHS-5161-1 "Certifications" page. | <input type="checkbox"/> | |
| 3. Proper Signature and Date on appropriate "Assurances" page, i.e., SF-424B (Non-Construction Programs) or SF-424D (Construction Programs) | <input type="checkbox"/> | |
| 4. If your organization currently has on file with DHHS the following assurances, please identify which have been filed by indicating the date of such filing on the line provided. (All four have been consolidated into a single form, HHS Form 690) | | |
| <input type="checkbox"/> Civil Rights Assurance (45 CFR 80) | | |
| <input type="checkbox"/> Assurance Concerning the Handicapped (45 CFR 84) | | |
| <input type="checkbox"/> Assurance Concerning Sex Discrimination (45 CFR 86) | | |
| <input type="checkbox"/> Assurance Concerning Age Discrimination (45 CFR 90 & 45 CFR 91) | | |
| 5. Human Subjects Certification, when applicable (45 CFR 46) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

PART B: This part is provided to assure that pertinent information has been addressed and included in the application.

- | | YES | NOT Applicable |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| 1. Has a Public Health System Impact Statement for the proposed program/project been completed and distributed as required? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Has the appropriate box been checked on the SF-424 (FACE PAGE) regarding intergovernmental review under E.O. 12372 ? (45 CFR Part 100) | <input type="checkbox"/> | |
| 3. Has the entire proposed project period been identified on the SF-424? | <input type="checkbox"/> | |
| 4. Have biographical sketch(es) with job description(s) been attached, when required? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5. Has the "Budget Information" page, SF-424A (Non-Construction Programs) or SF-424C (Construction Programs), been completed and included? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6. Has the 12 month detailed budget been provided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Has the budget for the entire proposed project period with sufficient detail been provided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. For a Supplemental application, does the detailed budget address only the additional funds requested? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9. For Competing Continuation and Supplemental applications, has a progress report been included? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

PART C: In the spaces provided below, please provide the requested information.

Business Official to be notified if an award is to be made

Name: Prefix: * First Name: Middle Name:
 Suffix:

* Last Name:

Title:

Organization:

Address: * Street 1:

Street 2:

* City:

* State:

* Country:

Province:

* Zip / Postal Code:

* Telephone Number:

E-mail Address:

Fax Number:

APPLICANT ORGANIZATION'S 12-DIGIT DHHS EIN (if already assigned)

- -

PART C (Continued): In the spaces provided below, please provide the requested information.

Program Director/Project Director/Principal Investigator designated to direct the proposed project

Name: Prefix: [] * First Name: SANDY Middle Name: []
* Last Name: KELLY Suffix: []

Title: REPORTABLE DISEASE SECTION HEAD

Organization: DIVISION OF EPIDEMIOLOGY AND HEALTH PLANNING

Address: * Street1: 275 EAST MAIN ST

Street2: HS2E-A

* City: FRANKFORT

* State: KY: Kentucky

* Country: USA: UNITED STATES

Province: []

* Zip / Postal Code: 40621

* Telephone Number: 502-564-3418

E-mail Address: sandye.kelly@ky.gov

Fax Number: []

SOCIAL SECURITY NUMBER

HIGHEST DEGREE EARNED

MS

PART D: A private, nonprofit organization must include evidence of its nonprofit status with the application. Any of the following is acceptable evidence. Check the appropriate box or complete the "Previously Filed" section, whichever is applicable.

- ☐ (a) A reference to the organization's listing in the Internal Revenue Service's (IRS) most recent list of tax-exempt organizations described in section 501(c)(3) of the IRS Code.
- ☐ (b) A copy of a currently valid Internal Revenue Service Tax exemption certificate.
- ☐ (c) A statement from a State taxing body, State Attorney General, or other appropriate State official certifying that the applicant organization has a nonprofit status and that none of the net earnings accrue to any private shareholders or individuals.
- ☐ (d) A certified copy of the organization's certificate of incorporation or similar document if it clearly establishes the nonprofit status of the organization.
- ☐ (e) Any of the above proof for a State or national parent organization, and a statement signed by the parent organization that the applicant organization is a local nonprofit affiliate.

If an applicant has evidence of current nonprofit status on file with an agency of PHS, it will not be necessary to file similar papers again, but the place and date of filing must be indicated.

Previously Filed with: * (Agency)

on * (Date)

INVENTIONS

If this is an application for continued support, include: (1) the report of inventions conceived or reduced to practice required by the terms and conditions of the grant; or (2) a list of inventions already reported, or (3) a negative certification.

EXECUTIVE ORDER 12372

Effective September 30, 1983, Executive Order 12372 (Intergovernmental Review of Federal Programs) directed OMB to abolish OMB Circular A-95 and establish a new process for consulting with State and local elected officials on proposed Federal financial assistance. The Department of Health and Human Services implemented the Executive Order through regulations at 45 CFR Part 100 (Inter-governmental Review of Department of Health and Human Services Programs and Activities). The objectives of the Executive Order are to (1) increase State flexibility to design a consultation process and select the programs it wishes to review, (2) increase the ability of State and local elected officials to influence Federal decisions and (3) compel Federal officials to be responsive to State concerns, or explain the reasons.

The regulations at 45 CFR Part 100 were published in *Federal Register* on June 24, 1983, along with a notice identifying the

Department's programs that are subject to the provisions of Executive Order 12372. Information regarding PHS programs subject to Executive Order 12372 is also available from the appropriate awarding office.

States participating in this program establish State Single Points of Contact (SPOCs) to coordinate and manage the review and comment on proposed Federal financial assistance. Applicants should contact the Governor's office for information regarding the SPOC, programs selected for review, and the consultation (review) process designed by their State.

Applicants are to certify on the face page of the SF-424 (attached) whether the request is for a program covered under Executive Order, 12372 and, where appropriate, whether the State has been given an opportunity to comment.

Other Attachment File(s)

* Mandatory Other Attachment Filename:

Add Mandatory Other Attachment

Delete Mandatory Other Attachment

View Mandatory Other Attachment

To add more "Other Attachment" attachments, please use the attachment buttons below.

Add Optional Other Attachment

Delete Optional Other Attachment

View Optional Other Attachment



DEPARTMENT OF HEALTH & HUMAN SERVICES

Program Support Center
Financial Management Service
Division of Cost Allocation

Cohen Building-Room 1067
330 Independence Avenue, S.W.
Washington, DC 20201
PHONE: (202)-401-2808
FAX: (202)-619-3379

August 31, 2007

Mr. Mike Burnside
Undersecretary, Administrative and Fiscal Affairs
Kentucky Cabinet for Health and Family Services
275 E. Main Street, 5W-A
Frankfort, KY 40621

Dear Mr. Burnside:

This is to advise you of the approval of Amendment 05-3 to the Kentucky Cabinet for Health and Family Services Cost Allocation Plan effective July 1, 2006.

In accordance with 45 CFR Part 95 Subpart E, this Approval is continuous until the allocation methods shown in the plan become out dated as a result of organizational changes within your department, legislative or regulatory changes, or a new plan is submitted by you. The regulations require that as a condition of receipt of Federal Financial Participation in administration services (excluding assistance and medical vendor payments and purchased services) and training for any quarterly period, the State's claim for expenditures must be in accordance with the Cost Allocation Plan on file and approved by the Director, Division of Cost Allocation, for that period. Amendments to your plan would be required for any changes indicated above. The sole responsibility for submitting proposed revisions rests with the State.

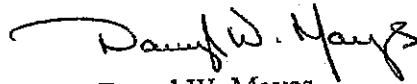
Approval of the Plan Amendment cited above is predicated upon the following conditions (1) that no costs other than those incurred pursuant to the approved State plan are included in claims to Department of Health and Human Services or other Federal Agencies and that such costs are legal obligations, (2) that the same costs that have been treated as indirect costs have not been claimed as direct costs, and (3) that similar types of costs have been accorded consistent treatment.

This approval presumes the existence of an accounting system with internal controls adequate to protect the interests of both the State and Federal Governments. This approval relates to the accounting treatment accorded the costs of your programs only, and nothing contained herein should be construed to approve activities not otherwise authorized by approved program plans, Federal legislation or regulations.

The operation of the Cost Allocation Plan approved by this document may from time to time be reviewed by authorized Federal staff, including the Division of Cost Allocation, operating divisions, DHHS Office of Inspector General for Audit Services, the Department of Agriculture, the Department of Labor, and the General Accounting Office. The disclosure of inequities during such reviews may necessitate changes to the plan.

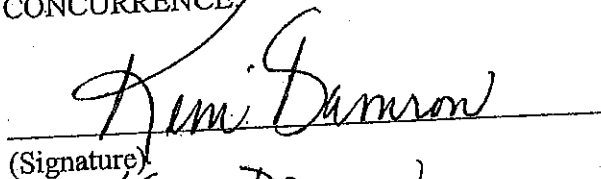
Please sign the original of this letter in the space provided to indicate your concurrence and return it to this office. In doing so, this letter becomes a part of the approved plan. If we may be of further assistance, please contact Christian Poole or me at (202) 401-2763.

Sincerely,



Darryl W. Mayes
Director, Mid-Atlantic Field Office
Division of Cost Allocation

CONCURRENCE:



(Signature)

Kim Damron

(Name)

CFO

(Title)

10.22.07

(Date)

cc:



CABINET FOR HEALTH AND FAMILY SERVICES

Steven L. Beshear
Governor

Governor's Office of Electronic Health Information
Jeff Brady, Executive Director
275 E. Main Street, 4W-A
Frankfort, KY 40602
Phone: (502) 564-7992
Fax: (502) 564-0302

Janie Miller
Secretary

August 24, 2010

William D. Hacker, MD, FAAP, CPE
Commissioner for Public Health
Cabinet for Health and Family Services
275 East Main Street HS1GW-A
Frankfort, KY 40621

Dear Dr. Hacker:

On behalf of the Governor's Office of Electronic Health Information (GOEHI), I am pleased to provide this letter of support for the Department for Public Health, Division of Epidemiology and Health Planning grant application to the Centers for Disease Control and Prevention.

As the State Designated Entity for the State Health Information Exchange Cooperative Agreement with the Office of the National Coordinator, GOEHI is in the process of piloting the technical architecture that will support statewide health information exchange. The federated model will support the electronic exchange of health information, including public health registries, and other public and population health functions. It also will provide access to an electronic health record (EHR) "lite" product for healthcare providers who lack an EHR system. To this end, we welcome the participation of the Department for Public Health, Division of Epidemiology and Health Planning in the Kentucky Health Information Exchange (KHIE) and the opportunity that the KHIE affords to building and strengthening epidemiology, laboratory and health information systems capacity in state and local health departments, through electronic data exchange, which fits well within these objectives. We fully support the Department for Public Health, Division of Epidemiology and Health Planning's efforts to increase and strengthen outbreak surveillance and investigation related to foodborne and health care associated infections in the state of Kentucky.

GOEHI recognizes the paramount need for additional epidemiologists, laboratory personnel, reagents and supplies for training and education in foodborne and HAI outbreaks to local health department, hospital and other staff, as needed, throughout the state of Kentucky. We are committed to working with the Department for Public Health, Division of Epidemiology and Health Planning to further the expansion of access to electronic data sources at the local and state level and support connectivity to the National Health Information Network (NHIN).

I offer our support and encouragement of this grant opportunity. We are very excited to partner with you in this worthy endeavor.

Sincerely,


Jeff Brady
Executive Director



KentuckyUnbridledSpirit.com

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CABINET FOR HEALTH AND FAMILY SERVICES

Steven L. Beshear
Governor

Governor's Office of Electronic Health Information
Jeff Brady, Executive Director
275 E. Main Street, 4W-A
Frankfort, KY 40602
Phone: (502) 564-7992
Fax: (502) 564-0302

Janie Miller
Secretary

August 24, 2010

William D. Hacker, MD, FAAP, CPE
Commissioner for Public Health
Cabinet for Health and Family Services
275 East Main Street HS1GW-A
Frankfort, KY 40621

Dear Dr. Hacker:

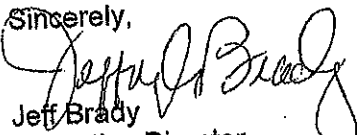
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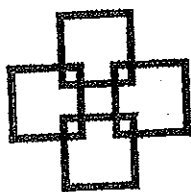
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I offer our support and encouragement of this grant opportunity. We are very excited to partner with you in this worthy endeavor.

Sincerely,


Jeff Brady
Executive Director





August 23, 2010

Michael T. Rust
President

William D. Hacker, MD, FAAP, CPE
Commissioner for Public Health
Cabinet for Health and Family Services
275 East Main Street HS1GWA
Frankfort, Kentucky 40621

Dear Dr. Hacker,

I would like to offer our support to standardize electronic laboratory reporting for reportable diseases consistent with *Building and Strengthening Epidemiology, Laboratory and Health Information Systems Capacity in State and Local Health Departments*, funding announcement CDC-RFA-CI10-1012.

Our role in this partnership will be to enter in to a contractual agreement with the Kentucky Department for Public Health, through our affiliate the Kentucky Hospital Research and Education Foundation (KHREF), to leverage our state-of-the-art ELR reporting system to assist you in meeting your stated objectives for hospital-based laboratory reporting.

Sincerely,

Michael T. Rust, FACHE
President and CEO
Kentucky Hospital Association

2501 Nelson Miller Parkway
Post Office Box 436629
Louisville, Kentucky 40253-6629
502-426-6220
FAX 502-426-6226

BUILDING AND STRENGTHENING EPIDEMIOLOGY, LABORATORY AND HEALTH
INFORMATION SYSTEMS CAPACITY IN STATE AND LOCAL HEALTH
DEPARTMENTS
CDC-RFA-CI10-1012
NARRATIVE -ACTIVITY A

Background, Current Capacity, Need, and Understanding

The Commonwealth of Kentucky is a mid-size state (approx. 4.3 million people) with a rather homogeneous, predominately white population that is concentrated in the northern and central parts of the state. The rest of the commonwealth, which extends from the Appalachian Mountains to the Mississippi River and shares borders with seven other states, is largely rural. In addition, Kentucky is a relatively economically challenged state, consistently ranking in the bottom five states in terms of per capita income. To protect and preserve the public's health in a jurisdiction with diverse geographic and economic disparities, Kentucky has developed a network of 57 single-county and district health departments that covers all 120 counties at the local level. The Kentucky Department for Public Health (KDPH), which is located in the state capital of Frankfort, provides guidance and financial support to these local health departments, in addition to serving as the administrator of the local health personnel system for all but two of the largest local health departments. Approximately 380 public health workers are employed by the state health department; the local public health workforce consists of about 4000 employees. The health care system in Kentucky includes 125 acute care hospitals, about 20% of which are critical access hospitals. Care is also provided in 285 long term care facilities, 100 dialysis centers and 30 ambulatory surgery centers, as well as in clinics and private offices settings throughout the state. Kentucky has a lower than average number of physicians and nurse practitioners per capita, juxtaposed with a high rate of chronic diseases, which is partially due to unhealthy lifestyle choices like high rates of smoking and inactivity. About 20% of all Kentuckians are enrolled in Medicaid. Additionally, around 16% of Kentuckians are estimated to be uninsured. Yet Kentucky ranks in the top five of all states, in terms of prescriptions filled per person.

While per capita numbers of reportable disease cases are consistent with other states, the large number of uninsured and Medicaid patients, combined with the relatively poor health of Kentuckians and the rural nature of the state, all place an increased burden on state health systems such as Medicaid and public health departments. As a result, state funding for foodborne illness and healthcare associated infections (HAI) prevention has not been adequate in meeting needs in Kentucky. It is anticipated that with additional funding provided by this opportunity Kentucky can enhance its focus on both foodborne and HAI outbreak prevention, with the goal of preventing the spread of disease and reducing the occurrence of outbreaks in both the community and in healthcare facilities.

Though gaps still exist, over the past few years considerable progress has been made in upgrading foodborne illness outbreak investigations. At KDPH, the Reportable Disease Section of the Division of Epidemiology and Health Planning (repository of the base ELC grant award) works closely with the Food Safety Branch in the Division of Public Health Protection and Safety and with the Division of Laboratory Services, in order to provide better guidance and assistance to the 18 regional epidemiologists and numerous public health nurses and environmentalists who carry out disease surveillance and investigations at the local level. Although the previous focus on identifying outbreaks and protecting individuals remains, more emphasis is being placed on capturing, collecting and analyzing data about foodborne and

BUILDING AND STRENGTHENING EPIDEMIOLOGY, LABORATORY AND HEALTH
INFORMATION SYSTEMS CAPACITY IN STATE AND LOCAL HEALTH
DEPARTMENTS
CDC-RFA-CI10-1012
NARRATIVE -ACTIVITY A

waterborne illness. Individual reportable diseases are reported through an electronic mechanism to KDPH. However, minimal oversight, insufficient training, staffing turnovers, and lack of equipment contributed to a less methodical and consistent approach to surveillance and outbreak investigation in many areas in the past. Additional staff and funds for equipment, software and other needed supplies for outbreak investigations are needed to improve prevention and control of disease and enhanced reporting. Although staffing has increased in the Reportable Diseases Section which provides oversight and consultation to the regional epidemiologists and local health departments (LHD), there still is a need for KDPH to provide consistent and ongoing training for epidemiologists and LHD staff throughout the state on outbreak surveillance and investigation. We have provided guidance by developing a standardized reporting form for enteric diseases to be used by regional epidemiologists and LHD staff. All of our regional epidemiologists have been provided training for and enrolled in the National Outbreak Reporting System (NORS). Recently the Reportable Diseases section has requested that regional epidemiologists enter all GI outbreaks food and non foodborne illnesses into NORS and use the state's newly developed standardized enteric questionnaire for enteric cases, which allows uniformity in the information received on cases. Kentucky is providing assistance at the state level for completing the NORS form when needed. Since the beginning of the year, we have begun formalized tracking of GI outbreaks. Fifty-three have been assigned state ID numbers. Recently, Kentucky was the lead state in identifying the recent multistate *Salmonella hartford* outbreak and initiated the call to CDC which began the nationwide investigation. This was a concerted effort on the part of KDPH's reportable disease staff, state lab bacteriological staff, state food safety personnel and local health staff.

Compared with foodborne investigations, the coordination of the surveillance, tracking and investigation of healthcare associated infections is in its infancy in Kentucky. Although outbreaks of any kind are required to be reported to authorities by state law, public health receives only a handful of reports of outbreaks in hospital settings each year. In addition, health care associated infections per se are not mandated as reportable diseases in the commonwealth. Lack of resources had previously prevented much progress in this area, but recent limited ARRA funding has allowed Kentucky to establish K-STRIPE, the Kentucky State and Regional Infection Prevention and Epidemiology Program, which has 2 staff at present. With the development of a K-STRIPE Advisory Committee, the groundwork has been set for HAI prevention. However, to be competitive and close the gap with other states that have ongoing HAI prevention efforts, more funding is needed for personnel and training for this budding program. Based on a recent needs assessment survey, over 60% of the current staff involved in infection prevention has equal to or less than a two year college degree. At least 50% of the respondents stated they need training in the use of epidemiological methods in order to assist them in the prevention of HAIs. Furthermore, over 50% stated their employer did not fund any travel for educational opportunities at national conferences provided by professional organizations such as APIC, SHEA, or CDC.

In addition to these training needs, training is needed for healthcare facilities on the National Healthcare Safety Network (NHSN) database. The Centers for Medicare and Medicaid (CMS) just released its final rule for the fiscal year 2011 Hospital Inpatient Prospective Payment

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System (IPPS), which includes a mandate that all hospitals begin reporting specific HAIs through NHSN. Currently only 10% of hospitals in Kentucky are enrolled and trained in its use.

Operational Plan

Through this opportunity, the Kentucky Department for Public Health (KDPH) would like to bolster both public health's foodborne and hospital associated infections (HAIs) programs by providing additional staffing, equipment and materials to improve the quality, completeness and timeliness of foodborne and HAI surveillance, reporting and investigation. Our plan is to accomplish this goal by hiring one epidemiologist dedicated to foodborne illness and one epidemiologist dedicated to HAIs. The epidemiologists will serve to facilitate better coordination and exchange of surveillance data between the state, LHD and other jurisdictions regarding foodborne /HAI outbreak investigations, in addition to providing mentorship and training in their respective areas. Next, we propose to utilize paid graduate students to routinely assist with the completion of enteric questionnaires. Finally, we would like to develop a training program for hospital infection preventionists, to facilitate their use of NHSN for reporting.

With a dedicated foodborne epidemiologist and the funds to support this position, Kentucky can build on established activities and take an even more proactive role in following foodborne illnesses and reporting them in a timely manner, including serving as a liaison to laboratory and food safety staff, as well as training and assisting state and local staff in capturing and entering foodborne outbreaks investigation information into the NORS system. The position would report to the Reportable Diseases Section (RDS) manager and serve to address the barriers that the state has encountered in tracking foodborne illnesses, such as tracking, establishing metrics and educating staff and providers in identifying, reporting and investigating cases laboratory confirmed for *Salmonella*, *Shigella*, *Campylobacter* and STEC. He/she would be expected to work toward enhancing epidemiology capacity and skills across the state for regional epidemiologists, LHD staff and infection prevention staff and other state partners (food safety, laboratory) in outbreak surveillance and reporting. With proper education, much of the time that local and field staff spends on case determination might be eliminated, so that time could be spent more profitably in pursuing public health measures that are indicated for true cases. Necessary equipment, software and other supplies for outbreak investigations are key elements to the incumbent's success.

To overcome delays in hiring, which have occurred in the past, KDPH proposes to hire the epidemiologist as a federally-funded time-limited (FFTL) employee, an established mechanism of hire which will expedite approval of the position and allow greater flexibility in offering a more competitive salary, in order to attract the highest quality candidate.

Foodborne Epidemiologist Duties: 1. Conducts field investigations, designs surveys and questionnaires, and collects data on specific reportable diseases in collaboration with reportable diseases staff. Within 2 months of hire. 2. Demonstrates proficiency in using epidemiologic methods to analyze data and interpret finding. Prepares reports, and recommends interventions and control measures using epidemiologic and statistical analyses software, e.g. Excel, Business Objects, SAS, SPSS, and GIS programs. Within 2-3 months of hire. 3. Prepares educational materials on foodborne outbreak investigation and surveillance issues after conferring with Reportable Diseases section manager and RDS staff. Within 3 months. 4. Provides assistance and consultations for epidemiologic investigations. Consults with and assists regional

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epidemiologists, infection preventionists, local health departments, medical providers, KDPH staff, and others health professionals on surveillance, reporting and outbreak investigation related to reportable diseases. Within 4 months of hire. 5. Provides training in documentation of outbreaks in NORS and follow-up to the eighteen regional epidemiologists LHD and state staff as needed within 6 months of hire. KDPH also proposes to hire a second medical epidemiologist for investigation of HAI outbreaks in acute care hospitals and long-term care facilities and to begin training hospital staff and coordinating with LHDs and other health care providers in identifying outbreaks in a healthcare setting and reporting the occurrence. The FFTL epidemiologist, working under the guidance of the HAI Prevention Program manager, will be responsible for developing and implementing NSHN statewide training to assist infection preventionists, medical providers, KDPH staff, healthcare facility staff and local health departments across the state of Kentucky in identifying and reporting HAIs. Like the foodborne epidemiologist position, KDPH plans to hire this position as an FFTL employee, in order to speed the hiring process, so that more can be accomplished in the first budget period of the award.

HAI Epidemiologist Duties: 1. Conducts field investigations, designs surveys and questionnaires, and collects data on specific HAI diseases in collaboration with infection preventionists' staff. Within 2 months of hire. 2. Assists in the implementation and maintenance of epidemiology databases including the linking of HAIs to other risk factors, e.g. Kentucky's Disease surveillance module, PulseNet and NHSN data base as indicated. Acquires/develops expertise in analysis and reporting of aggregate or individual facility data in NHSN. Prepares and distributes reports about HAIs, outbreaks, e.g. annual report as needed. Ongoing 3. Begins to coordinate National Healthcare Safety Network (NHSN) activities and training, serving as lead coordinator or co-coordinator for NHSN enrollment, recruiting, user training, and group user functionality for Kentucky hospitals and other healthcare setting participating in NHSN. The epidemiologist plans, organizes, and implements training courses and conferences related to HAIs and NHSN under the direction of the HAI Prevention manager. This process begins ASAP after hire and continues through budget periods 1 and 2 of this funding opportunity 4. Prepares educational material on epidemiological HAI outbreak investigation and surveillance issues after conferring with HAI prevention manager. Within 3 months of hire.

Using a strategy that has been successful in other states such as Minnesota, KDPH also plans to contract with at least two public health graduate university students, compensating them for each foodborne illness questionnaire interview completed. These personnel could be used on a regular basis to supplement the completion of appropriate questionnaires by local and state staff in the investigation of cases of *Salmonella*, *Campylobacter*, *Shigella* and Shigatoxin producing *E. coli* (STEC), the four most commonly reported enteric foodborne pathogens. The objective would be to obtain more timely and complete information which would used to formulate more thoughtful and faster public health responses. Contracting with outside agencies can be a challenge. However, because state universities are considered sister governmental entities, contracts with universities have fewer restrictions and more options available. Furthermore, KDPH hopes to modify an existing university contract in order to shorten the timeframe for being able to utilize this resource.

Lastly, KDPH proposes to develop and conduct regional trainings for hospitals about HAI surveillance and tracking. Education and training is a key element to prevention. Regional trainings will overcome some geographical barriers to training. One of the grant goals will be to

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increase the epidemiological skills of infection prevention staff in Kentucky's healthcare facilities by providing educational opportunities that include training in (1) NHSN reporting and (2) the use of epidemiological methods for HAI surveillance, outbreak investigation and reporting, data collection and analysis, implementing evidence-based prevention measures, evaluating program success. In the past, voluntary reporting and concern about discoverable data have led to reticence to report through the NHSN. However, the new federal CMS IPPS Final Rule for FY 2011 should provide an encouragement that they did not previously have for hospitals to learn and use NHSN to report and track HAIs.

Measures of Impact and Effectiveness

The newly hired epidemiologists and their direct supervisors will be responsible for developing, implementing and tracking the following performance measures for this activity, which will assist in demonstrating achievable progress for us, our grantor and our stakeholders. One of the challenges for measurement will be establishing baselines for the metrics during budget period 1.

1. Increase the percentage of foodborne illness outbreaks that are entered into NORS by one month after outbreak ends to 50% by end of budget period 1. By the end of budget period 2, 50% more outbreaks will be reported to NORS compared to end of budget period 1. This target is consistent with CDC's goal of 75% of outbreaks being reported within 2 months (60 days) of the date the first case became ill. **Baseline:** Unknown--- to be established during budget period 1
Method: Foodborne epidemiologist will provide training, support and checklists to regional epidemiologists and local health department staff. Epidemiologist will track in NORS.
2. Increase the percentage of cases of *Salmonella*, *Shigella*, *Campylobacter* or STEC which have a foodborne illness questionnaire completed within one week of laboratory confirmation to 60% by the end of budget period 1. **Baseline:** Unknown- to be established during budget period 1
Method: Foodborne epidemiologist will coordinate contracted graduate students and local health staff for more timely completion of questionnaires. Tracking can be done through Kentucky's established electronic disease reporting system, which local departments can access.
3. Increase the percentage of Kentucky's acute care hospitals that have completed training in the use of the NHSN to at least 60% by the end of budget period 1. **Baseline:** 13/125 = 10%
Method: Six regional hands-on trainings will be held, using state and national experts. HAI epidemiologist will track. In budget period 2, an additional increase of 50% more hospital will have completed training in the use of NHSN, compared to the end of budget period 1.
4. Increase the number of healthcare facilities recognizing and reporting outbreaks to public health authorities to ≥ 20 during budget period 1, which is 10 months in duration. **Baseline:** <20 per year (12 months). **Method:** The HAI epidemiologist will work with other K-STRIPE program staff to improve outbreak investigation training. Facilities will be encouraged to send more isolates for organism identification to state public health laboratory, which will expand capacity through activity B of this opportunity. Eventually, it is hoped electronic lab reporting will improve outbreak reports.

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BUDGET PERIOD 1 – ACTIVITY B NARRATIVE

1) Background, Capacity, Need and Understanding

The Division of Laboratory Services (DLS) currently is an active participant in numerous activities supported by the current Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) grant. These areas include submissions to PulseNet, Norovirus identification and outbreak investigation, Molecular and Conventional Salmonella Serotyping, Vaccine Disease Preventable Testing including Pertussis, Measles, Mumps and Rubella. The DLS also provided a rapid surge response to the recent H1N1 pandemic, implemented a new molecular PCR assay for influenza and continues to provide this testing to assure the most accurate, reliable results are available for influenza identification and strain typing. Rapid NAAT testing and drug susceptibilities are performed for Tuberculosis (TB).

The Laboratory currently performs PFGE molecular typing of all shiga toxin positive E.coli, Salmonella, Listeria and every 10th Shigella. In addition PFGE is periodically performed by request for nosocomial investigations as well as for other foodborne pathogens. All patterns are downloaded to the CDC website, compared to current outbreaks and tracked for current trends. In 2009 the Laboratory performed PFGE for a total of 757 Salmonella, Shigella, E.coli and Listeria isolates. Within the last 6 months, four outbreaks were identified by DLS (3 Salmonella, 1 E.coli). There are currently 2 full time analysts working in PFGE which are certified for Salmonella, E.coli, Shigella, and Listeria. Monthly meetings are held in collaboration with epidemiology to discuss current issues and outbreaks; and all PulseNet annual and regional meetings are attended by one or more staff as well as CDC and APHL sponsored teleconferences. DLS plans to hire an ELC laboratorian which will allow for expansion of our PFGE capabilities to include Campylobacter typing and additional hospital acquired disease investigation molecular typing (MRSA, C. difficile). In addition, this laboratorian will utilize new molecular technology for foodborne organisms (Campy identification, salmonella molecular Serotyping) as well as other agents such as vaccine disease preventable organisms and tuberculosis.

There is a tremendous gap in timely submission of samples to the laboratory which is attributed to the lack of a routine courier service. Of the 8,300 respiratory specimens received in 2009 most specimens were received >48 hours from collection, with >85% of TB specimens received > 72 hours. This service would be flexible to include various samples types including but not limited to foodborne, HAI (C. difficile, MRSA), and respiratory illnesses. This would decrease our turnaround times(TAT) for specimen collection to receipt at the laboratory from 5 days to 1 day for most specimens, hence decreasing our TAT's for reporting of final results allowing for more effective and timely outbreak investigations.

DLS provides detection of Norovirus by real time PCR as well as classification into Genotype I or Genotype II. In 2009 the lab received 203 requests for Norovirus testing with a positive rate of 55%. We would like to expand our capabilities by sequencing Norovirus and becoming an active participant in Calcinet. In July of 2010 the Division of Laboratory Services sent a

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technologist to a CDC sponsored training which focused on Norovirus sequencing and Calcinet. This effort will enhance surveillance with epidemiology and allow clinical sequence correlation.

In 2006 the Laboratory was invited to participate in a study with the CDC on molecular Serotyping of Salmonella using PCR/Flow cytometry in hopes of replacing the traditional serotyping method. We have tested >300 specimens in this study which is ongoing with the CDC.

Though our capacity for testing Vaccine Preventable disease (VPD) is limited to EIA tests (Measles, Mumps, Rubella) with the exception of Pertussis (RT-PCR), we would like to implement more sensitive molecular techniques for these diseases provided funding is available for reagents and supplies. Our Assistant Director serves on the APHL sponsored Infectious Disease Committee as well as the VPD subcommittee and presented on the limitations of VPD testing at the 2010 National APHL meeting.

Rapid NAAT testing (MTD) is used to provide results for Tuberculosis identification. This testing is being performed and resulted on the same day as specimen receipt and first line and partial second line drug susceptibility testing for MTB is performed by Agar Proportion plate method. Although these findings were reported within 24 hours of specimen receipt, drug susceptibility testing was not available for 14-21 days. Therefore, a combined single test offers the advantage of identification and drug susceptibility with a 24 hour turnaround time (TAT). The DLS would like to combine these tests in one molecular test that will provide rapid identification and drug susceptibility results which will enhance surveillance capabilities by decreasing turnaround times and restraining growth of health care costs related to the containment and control of TB.

Operational Plan

October 1, 2010-July 31, 2011

Foodborne Disease

The primary objective is to enhance foodborne investigation and surveillance. This will be accomplished by adding Campylobacter to the current PFGE panel; obtaining the appropriate reagents and equipment to reduce PFGE testing turnaround time (TAT) for Salmonella and Shigella; hire an ELC laboratorian to perform these tests; obtain certification for E.coli, Salmonella, Shigella, Listeria and Campylobacter; attend monthly meetings with State Epidemiologists; and attend the PulseNet Annual Meeting on a rotating basis, as well as CDC sponsored Bionumerics/PFGE workshops. These activities will be accomplished within the first 6 months. Additional PFGE certifications will be completed within the 22 grant period.

Hospital Acquired Infections (HAI)

DLS performs PFGE testing for hospital acquired infection receiving approximately 2-3 requests per year. We plan to expand this capability to include routine surveillance and detection of approximately 50 isolates per year. With the purchase of the GeneXpert system and the hiring of an ELC laboratorian we will implement molecular identification and subtyping (PFGE) of these organisms. The GeneXpert is a nested PCR system with multi organism capabilities which includes C. difficile and MRSA identification and drug susceptibility testing for tuberculosis.

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Nested PCR will be offered for HAI and respiratory diseases during the first 10 months of initial grant cycle. Effectiveness of this testing will be evaluated during the 22 month grant period.

Norovirus Testing

In an effort to enhance our surveillance of Norovirus outbreaks the lab will implement sequencing using a SmartCycler platform. The ELC laboratorian will be trained as a backup for this testing while an existing Laboratory Scientist II will serve as the primary technologist. We will actively participate in Calcinet and attend the Annual Calcinet User's Meeting. Funding will be required for an additional BioNumerics license, reagents, personnel, training and travel. Meetings will be held in collaboration with Epidemiology to discuss sequencing data. These activities will begin in 6 months and continue through the 22 month grant period.

Vaccine Preventable Diseases (VPD)

As fewer reagents and commercial kits become available for many of VPD's, it is critical to look at alternate testing possibilities. We perform PCR based testing for Pertussis and would like to implement this for several of the other VPD's. Funding will be required for reagents and training. We plan to use current personnel to validate this testing while the ELC laboratorian will train and rotate testing responsibilities based on the volume of testing within the scope of this grant. We intend to send a technologist to the APHL sponsored VPD hands on training. Once implemented in the initial 10 months the lab will educate our partners on the availability of this testing throughout the 22 month grant cycle.

Respiratory Agents (Tuberculosis)

DLS is currently using the Mycobacterium Tuberculosis Direct Test (MTD) for rapid identification of TB in clinical specimens. Purchase of the GeneXpert System would allow us to discontinue use of the MTD, which requires meticulous preparation and the use of caustic chemicals, and replace with the flexible nested PCR identification of tuberculosis allowing for timely detection of drug susceptibilities. The current staffing level for the TB lab is sufficient to implement this testing within the first 6 months. The test menu will be expanded as available.

Courier

A courier will be contracted to provide services to selected sites, as per epidemiology, based on distance and incidence. Benefits would include decreased lab turnaround times thus enhancing surveillance capabilities which results in fewer illnesses by timely determination of the outbreak source. The lab would distribute a request for proposal (RFP) within two weeks of receiving funds.

"Connector"

DLS proposes to hire a Laboratory Epidemiologist to serve as a liaison between the laboratory as well as local health departments epidemiologists and hospital infection control specialists. This staff member would attend Lab/Epi outbreak meetings to include but not limited to PFGE, Norovirus, and HAI's. In addition, this position will monitor PulseNet for potential outbreaks, the lab's data for a baseline increase in serotypes and/or PFGE patterns. Submission of routine Influenza data and Salmonella serotypes will also be a primary job function continuing through the 22 month grant cycle. This position will be filled within the first 3 months of the initial

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award. _

Limitations

Potential obstacles include purchasing of equipment, hiring of personnel and limited travel to training/ meeting due to state imposed restrictions. The hiring of an ELC laboratorian and ELC “connector” could be effectively done via contract. As these would be grant funded positions this permits leverage to obtain rapid approval for these technologists. Though the state system of purchasing equipment and reagents is thorough but at times can be lengthy, the Laboratory has recently designated a Business Office section and manager which has effectively streamlined this process, eliminating many of the delays encountered in the past. At present there are no limitations on travel, provided that they are specific to the program and grant funded. If monies are not provided for this purpose it will be challenging to attend these trainings and meetings.

2) Measures of Impact and Effectiveness with Operational Timeline

| <u>Time frame beginning Oct 1st 2010 to July 31st 2012</u> #1 (Oct –Dec 2009), #2 (Jan – Mar 2010) #3 (Apr – July, 2011), #4 (Aug – July 2012) | #1 1-3 Months | #2 4-6 Months | #3 7-10 Months | #4 11-22 Months |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|----------------------|-----------------------|
| <u>Foodborne Disease</u> 1. Hiring ELC laboratorian position 2. Purchase PFGE Reagents & Equipment 3. Obtain PFGE Certification for Campylobacter for all current and new ELC laboratorian 4. Implement PCR testing of Campylobacter from 0% sample volume to 99% of samples 5. Reduce turnaround time for PFGE Shigella & Salmonella testing from 5 days to 3 days | X X | X X X | | |
| <u>Hospital Acquired Infections (HAI)</u> 6. Implement nested PCR HAI testing volume from 2-3 requests to approximately 50 per year | | | X | |
| <u>Norovirus</u> 7. Advance to Norovirus sequence testing in-house from 0% to 99% of samples | | X | | |
| <u>Vaccine Preventable Diseases (VPD)</u> 8. Implement PCR testing for other VPD (Measles, Mumps, & Rubella) from 0% to 99% of samples | | | X | |
| <u>Respiratory Agents</u> 9. Obtain new nested PCR detection system 10. Implement nested PCR system for TB detection and drug susceptibility | X | X | | |
| <u>Courier</u> 11. Obtain contract for state Courier Service 12. Reduce turnaround time from collection to | | X X | | |

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| receipt for foodborne sample from an average of 5 days to 1 day 13. Reduce turnaround time of receipt of respiratory samples (TB) to the lab from selected sites; From 5% within 24 hours of collection to 50% From 5% within 24 hours of collection to 70 % From 5% within 24 hours of collection to >90% | | X | X | X |
| <u>Laboratory/Epidemiology Connector</u> 14. Hire Laboratory Connector position | X | | | |
| <u>Training</u> 15. New personnel attend 3 of 3 ELC grant funding trainings | | | X | |

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BUDGET PERIOD 1 – ACTIVITY C

Background, Capacity, Needs and Understanding

The Kentucky Division of Laboratory Services provides comprehensive clinical and environmental services to support the Department for Public Health. The Division of Laboratory Services processes approximately 3 million tests per year of which 50% are from hospitals. In March 2010 the Division of Laboratory Services went live with electronic ordering and result retrieval and has 1500 current users. The Division Epidemiology receives program related lab reports via the lab web Outreach system; however, 0 reports are electronically populated into the National Electronic Disease Surveillance System (NEDSS) from the state's LIMS. As a result, we are not efficiently utilizing federal surveillance systems. The purpose of our request is to fill that gap by hiring, developing and submitting results to an electronic surveillance system from the state lab to the NEDSS via the KY Health Information Exchange (KHIE) based on standard message vocabulary. This will be done by harmonizing local codes with internationally accepted standard codes (LOINC, SMOMED, PHIN VADS). Interoperability standards will be maintained so that secure data exchanges will be easy to implement in the future.

- The NEDSS System contains information beyond the state lab (e.g. private lab, hospitals); therefore, it is more effective and efficient to connect the state lab test results to the KHIE to obtain comprehensive filtered "Reportable" data going in to the NEDSS system.
- KHIE participation agreements have been established between Kentucky Cabinet for Health and Family Services and relevant data sharing partners (both public and private). Participation in the Public Health Laboratory Interoperability Project (PHLIP) is in progress to assist DLS with direct electronic data entry into the PHINMS.
- Currently, DLS does not have dedicated IT personnel for Informatics or Vocabulary standardization. DLS will also utilize staff specific to the development, implementation and validation of the KHIE NEDSS connection, these staff are already in place. The Informatician duties will include but not limited to technical oversight and training through the ELC grant-funded project period. The Informatician will be assisted by expert resources (KHIE Chief Technology Officer and KHIE Technical Architect).

Operational Plan

The overall objective in the first 10 months of the ELC grant cycle 1 budget period is to provide 50% of laboratory electronic data of "Reportable" diseases into the NEDSS via the KHIE by hiring an Informatician and a Laboratory Vocabulary Specialist with duties to include but not limited to facilitating the technological development, implementation and validation teams with the KHIE to NEDSS connection. The Informatician will meet at least twice a week with the Laboratory Director to review progress and obstacles. Regularly scheduled project and KHIE team meetings will be held at least weekly. Project-related information will be posted to an internal SharePoint site which will be established upon grant notification. The Lab Vocabulary Specialist's role is positioned in the State Laboratory and will be responsible for identifying laboratory tests and data elements specific to electronic orders from hospitals, clinics and other healthcare facilities. Additionally, the Lab Vocabulary Specialist will coordinate participation on

the PHLIP vocabulary and messaging workgroup and the CDC Vocabulary Community of Practice (VMCOP).

- Complete a gap analysis to ensure efficient connection from current methods to proposed KHIE to NEDSS and DLS to PHINMS via a PHLIP assessment.
- Participate in on-line and on-site training opportunities, such as,
 - AMIA 10x10 : <https://www.amia.org/10x10>
 - HL7 Training: <http://www.hl7.org/implement/training.cfm>
 - LOINC: <http://loinc.org/faq/getting-started/getting-started/>
 - APhL: <http://bit.ly/9jxdhz>
- To complete conversion of current state lab LIMS vocabulary into standard LOINC and HL7 2.5.1 messaging. To date, 40% of the microbiology data in standardized LOINC vocabulary has successfully tested in the KHIE and environmental local codes remain to be converted to standard language. A Laboratory Vocabulary Specialist is required to complete this task and assist in helping us meet our meaningful use criteria (Meaningful use: Capability to receive HL7 messages and report to Public Health Surveillance entities). 90% standard language by May 2011.
- Pass state laboratory data to NEDSS via KHIE using a "Reportable" disease filter for Campylobacter, Shigella, Salmonella, Influenza, Hepatitis [A, B, C], Neisseria meningitides, Escherichia coli, Streptococcus pneumonia, Bordetella Pertussis and Mycobacterium tuberculosis, and utilizing Rhapsody for HL7 2.5.1 conversion to HL7 2.3.1. Trials to begin in March 2011.
- Also expand the number of entities reporting to NEDSS from KHIE to include but not limited to private labs and hospitals. This expansion will be completed by second grant year cycle. In addition, connecting surveillance and clinical/epidemiological data with laboratory data will also be enhanced for those facilities using a HL7 format recognized by the KHIE and non-standardized codes (local codes). This will be accomplished by harmonizing these entities local codes with internationally accepted standard codes (i.e. LOINC, SNOMED, and PHIN VADS).

Limitations

- Efficient passing of state lab data into NEDSS from KHIE would be delayed without additional funding to add the "Reportable" filter. Hiring into the state system can sometimes be prolonged; however, we plan to do contracts which should expedite the process.

Measurement of Impact and Effectiveness

- Hire personnel dedicated ELC grant IT Informatician and Lab Vocabulary Specialist by November 1, 2010. Current status is 0.
- Host PHLIP visit for gap analysis to be completed by October 1, 2010. Current status: Pre-PHLIP meeting scheduled for August 25th 2010, Onsite PHLIP visit scheduled for September 21-25.
- Attend 2 of the 4 recommended trainings over the cycle 1 of the ELC grant and complete 4 of the 4 recommended trainings by the end of the 2nd grant cycle.
- Complete current state LIMS vocabulary to standard LOINC for HL7 2.5 messaging. Current status 40% of test codes mapped. 90% to be mapped by March 2011. The remaining 10% to be mapped/completed by May 2011.

- Currently, 40% of lab data is passed to KHIE. Pass 90% by March 2011. Pass the remaining 10% by May 2011.
- KHIE development staffs to begin development and structure of the KHIE filter by October 2010. Current status is 0 messages from KHIE to NEDSS.
- By January 2011 begin validation of filter for lab data for pre-selected "Reportable" diseases.
- By February 2011 KHIE filter connect to Rhapsody to convert 2.5 messages to 2.3 messages in to NEDSS. Current status, 0 capacity to convert.
- By March 2011 begin trials of filtered "Reportable" data from KHIE to NEDSS.
- By April 2011 successfully pass 50% of case loading of "Reportable data from KHIE to NEDSS.
- By May 2011 "go-live" with 80% of KHIE filtered data to NEDSS. The remaining 20% to be passed during the ELC grant cycle 2.

List of Stakeholders

Include but are not limited to the list below:

- Jeff Brady Governors Office Electronic Health Information (GOEHI)
- Kathy Frye (CIO),
- Kentucky Hospital Association (KHA)

The capacity to accept and process standards-based electronic messages from sending electronic health records (EHRs) as set out in the Centers for Medicare and Medicaid Services Meaningful Use Notice of Proposed Rule Making (published on July 28, 2010 in the Federal Register at <http://edocket.access.gpo.gov/2010/pdf/2010-17207.pdf>) is currently in progress and will be completed before January 1, 2011 as part of the Kentucky Health Information Exchange (KHIE) project. No funds from this grant will be needed in order to complete the KHIE beyond the development of the KHIE filter and connection to NEDSS, as they are already incorporated into the KHIE project. The KHIE will use the associated standards, implementation specification and certification criteria as defined in the Office of the Secretary Standards & Certifications Interim Final Rule: Initial Set of Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology (published on July 28, 2010 in the Federal Register at <http://edocket.access.gpo.gov/2010/pdf/2010-17207.pdf>). Currently this messaging infrastructure does not have the capability to analyze the messaging feed to filter for Notifiable diseases (more on this in the next section).

In an effort to maintain surveillance data entry into the NEDSS until the KHIE filter is operational, we are requesting the following assistance as described below:

Objective statement: The Kentucky Department for Public Health (KDPH) proposes to standardize electronic laboratory and morbidity reports for 12 reportable diseases against the NEDSS base system application vocabulary, version 3.

Objectives: Establish a contractual arrangement between KDPH and the Kentucky Hospital Association (KHA) for harmonization services.

- Standardize hospital-based ELR against the NEDSS base system application vocabulary, version 3

- Validate the structure and terminology of the standard ELR using the state's instance of the Orion Rhapsody interface engine.

Target: [Quantitative measure] One (1) contract between KDPH and KHA for the provision of standardization services. [Target date: November 31st, 2010]

- By March 1st, 2011 50% of the ELR reports from our target hospital laboratories (see Data sources section) will be consistent with the NEDSS base system application vocabulary, version 3.
- By July 31st, 2011 80% of the ELR reports from our target hospital laboratories (see Data sources section) will be consistent with the NEDSS base system application vocabulary, version 3.
- By April 1st, 2011 50% of the ELR reports from our target hospital laboratories (see Data sources section) will have passed the CDC PHIN VADS validation process built-in to our Orion Rhapsody interface engine.
- By August 1st, 2011 100% of the ELR reports from our target hospital laboratories (see Data sources section) will have passed the CDC PHIN VADS validation process built-in to our Orion Rhapsody interface engine.

Baseline:

Presently KHA collects HL7 messages, in real-time, from local hospitals to generate electronic laboratory and morbidity reports for our local health departments. The output of this surveillance project is currently not available to state level users by direct message consumption. Instead, the local health department must re-key the report in to the state's web-based surveillance system; hence KDPH is not receiving the ELR reports directly from the hospital information system. The primary objective of this project is to standards ELR traffic and makes it available to the KDPH's NEDSS Base System. By doing so, KDPH will receive standards-based ELR from eight (8) local hospital laboratories.

Data sources:

Louisville, Kentucky: University of Louisville Hospital, Jewish and Saint Mary's Healthcare Baptist East Hospital; **Lexington, Kentucky:** Central Baptist Hospital, University of Kentucky Healthcare, Good Samaritan Hospital; **Northern Kentucky Region:** Saint Elizabeth's Hospital, Saint Luke's Hospital.

Discussion: The Kentucky Department for Public Health (KDPH), cooperating with the Kentucky Hospital Association (KHA), has an active, hospital-based surveillance program that supports ELR driven reportable disease notification. The hospital surveillance program is in production in three large Kentucky metropolitan areas (Louisville, Lexington, Greater Northern Kentucky area); more than half of Kentucky's population seeks healthcare services in these three regions.

At the heart of the surveillance system is the ELR-driven submission of electronic morbidity reports to local health departments. Morbidity reports contain the original laboratory message and any morbidity data that can be collected from the hospital system. The system operates by collecting HL7 message traffic and inspecting the OBX segment(s) of OBR messages. From these OBX segments electronic morbidity reports are constructed by including relevant patient and visit information captured in ADTs.

Method: The components of our surveillance system are a transformation/rules engine, a transport system (PHIN Messaging Subsystem) and an endpoint reporting system. The

transformation/rules engine is used to obtain and filter HL7 message traffic from hospitals and transform them into XML. Based on reporting criteria, the rules engine will submit an electronic laboratory report along with relevant patient and visit information to the endpoint reporting system and notify authorized users of the reporting event. This transaction is secured using version 2.7 of the PHIN Messaging Subsystem. KDPH will use funds from this extension grant to harmonize the terminology of message constructed by the extraction/transformation engine to correspond with the NEDSS Base System (NBS) Application Vocabulary. Vocabulary will be acquired from the PHIN Vocabulary Access and Distribution Service (PHIN VADS) and used to inform the harmonization process. The harmonized messages will retain their native 2.3.1 format, as this is presently the message structure required by the NBS [soon to be adopted by Kentucky] for processing inbound ELR and outbound CDC standardized case reports. KDPH currently has the capability to map between HL7 2.3.1 and 2.5.1 messages structures, but will not put this format into production until the NBS is capable of accepting the 2.5.1 format. The KDPH will contract with the KHA to execute this vocabulary harmonization project. KHA, using its vendor, Emergent Technologies Inc., will harmonize the ELR and electronic morbidity reports for twelve reportable diseases: *Campylobacter*, *Shigella*, *Salmonella*, *Influenza*, *Hepatitis [A, B, C]*, *Neisseria meningitidis*, *Escherichia coli*, *Streptococcus pneumoniae*, *Bordetella pertussis* and *Mycobacterium tuberculosis*. Assuming the harmonization work begins in January, 2011 standardization of message for six (6) of eight (8) target hospitals will be complete for all 12 disease by the end of the ten (10) month grant period. The two remaining hospitals will be addressed in the second year of the extension.

Evaluation: The inbound hospital-based ELR messages will be evaluated against the PHIN VADS validation route in Orion Rhapsody interface engine implementation. Messages that do not meet the validation criteria will be flagged for review, corrected and re-processed until they pass the validation step without error. The validation process will be extended to all messages related to the reportable diseases mentioned in the methods section.

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| PERSONNEL 9/30/2010-7/31/2011 | | | | | |
|--------------------------------------------------------------|------------------|--------------------|--------------|--------|---------------------|
| Position Title & Name | Annual Salary | Fringe Benefits | % of Time | Months | Amount Requested |
| Medical Epidemiologist (Grade 17)-Food borne outbreaks | \$54,377 | \$20,204 | 100% | 10 | \$74,581 |
| Medical Epidemiologist (Grade 17) – HAI outbreaks | \$54,377 | \$20,204 | 100% | 10 | \$74,581 |
| | TOTAL: | | | | TOTAL: |
| | \$108,754 | \$40,408 | | | \$149,162 |

LINE ITEM JUSTIFICATION PERSONNEL

Job Description:

Medical Epidemiologist (Food borne outbreaks)

- The medical Epidemiologist for foodborne outbreaks would be responsible for the development, training and implementation of curriculum statewide for food borne outbreak investigations. This individual will serve as the liaison between the state, regional epidemiologist and LHDs as it pertains to outbreak investigation inclusive of data analysis. The objective here is to prevent the spread of STEC, Campylobacter, Salmonella, Shigella; etc which is common sources for GI illness food or non food borne outbreaks. This individual also is expected to meet with the eighteen regional epidemiologists and the state RDS staff at least bi-weekly to share findings or barriers experienced. Develops training content for and materials for documentation of GI outbreaks into NORS for LHD, state and regional epidemiology staff. Establishes ongoing communication with the Division of Laboratory Services for PFGE and PulseNet data; becomes a member of PulseNet, NORS, EPI-X and Food Net. Plan bi weekly meeting with PFGE staff at the

ACA-Budget justification

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state lab to discuss Pulsenet findings and matches of PFGEs to other states. Attends annual Outbreak Net/Pulsenet meetings and assists in the supervision of food borne outbreak activities involving statewide nurses and environmentalists and LHD staff and regional epidemiologist.

Medical Epidemiologist (HAI)

The HAI Epidemiologist will provide epidemiological expertise for surveillance, reporting and investigation of healthcare associated infections. This individual would be responsible for the development, training and implementation statewide for reporting of healthcare related outbreaks. This individual will provide trainings to regional epidemiologists, hospital staff, Infection Preventionists, LHD staff, medical providers throughout the state to aid in preventing and controlling the spread of disease and other health conditions such as C. Difficile and MRSA. Other duties include the following:

- Coordinates with CDC NHSN for availability of NHSN training staff to participate in Kentucky training sessions.
- Locates and books appropriate venue/facilities across the state for hosting at least six training sessions (20 participants per session)
- Develops training content and educational materials in collaboration with CDC NHSN staff; obtains CEU offerings through KY Train
- Communicates the six training session dates and locations with Kentucky Hospitals and Infection Prevention staff through the use of: the K-STRIPE Advisory Committee members representing KY's healthcare organizations, e-mail flyers from KDPH, notification to the 3 KY APIC chapters for distribution to their members, KY Hospital Association newsletters and mailings, notice on the MRSA Collaborative Website. To be Provides at least six NHSN training sessions that cover at least 80-90% of the hospital staff who need training by June 30th, 2011.

The hiring process for both positions will follow the format used by the state for hiring. It will be clearly stated that this is a time limited position with fringe benefits in place. As this is a time limited position we have some say over how long the position is listed and we will use our present job description to define the job duties and responsibilities for a medical epidemiologist. This position can be filled by a nurse, veterinarian, nurse practitioner, dentist or pharmacist licensed by the appropriate Kentucky board of licensing or a Medical technologist. A Masters in Public Health or a Master of Science degree or equivalent with an emphasis on epidemiology and/or biostatistics is required.

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| TRAVEL | \$ 3,000 |
|--------|----------|
|--------|----------|

Out-of-State Travel (Medical Epidemiologist)

\$1,500

Costs estimated for attendance at Outbreak Net meeting June 2011 /Pittsburgh, PA
For lodging, travel per diem and registration x one person for the purpose of
Sharing information regarding food borne outbreak investigation strategies.

Out-of-State Travel (Medical Epidemiologist)

\$1,500

Costs estimate for Pulsenet training, destination unknown at this time
cost included for lodging, travel, per diem and registration x 1 person to learn
and share new technologies regarding PFGE testing and Pulsenet strategies.

| EQUIPMENT | \$9038 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Two (2) Laptops w/docking station for travel to LHD and training sites Laptop; \$983; laptop cases \$23 each; docking stations \$150 ea | \$2,312 |
| 3G wireless adapter + monthly service | \$1,000 |
| Two (2) Desktop computers with dual monitors & connection 833, each computer; additional monitor for dual screen \$188 ea; each connection for monitors \$92 | \$2,226 |
| Two (2) ARCGIS program (available through site license) | \$1,000 |
| Adobe Professional software (2) | \$500 |
| Color printer/copier | \$2,000 |

Note: It is anticipated that the medical epidemiologists HAI and Food borne outbreak hires will spend a lot of time in the field. Many of our counties are in rural areas and do not have sufficient equipment to support computer use or internet capabilities and we deem it necessary that laptops with docking stations and 3G wireless adapters be available when working in the field with regional epidemiologist and LHDs. Desktops are needed for work stations used here at the department. ARCGIS software is necessary for mapping where outbreaks are occurring in the community or a healthcare facility. Additional Adobe software is to be utilized for creating PDF files to word and back again. Color printer copier is needed for creating color documents for trainings, power point presentations etc.

ACA-Budget justification

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| SUPPLIES | \$2000 |
|----------------------------------------------------------|--------|
| General Office Supplies (pens, paper, DVD/CD blanks etc) | \$1000 |
| Refill cartridges for color printer | \$1000 |

| CONTRACTUAL | \$57,000 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <p>Contract for Two (2) MPH university graduate students to do GI illness case standardized questionnaire during routine case investigations for confirmed or suspected enteric pathogens or during an outbreak when the need to use a more comprehensive food borne tool such as the Oregon Shotgun or Outbreak Net <i>E.coli</i> O157 questionnaire. Based on 2009 cases of Shigella, Salmonella, STEC and Campylobacter. In our Disease surveillance module, approximately 1165 cases of these conditions were confirmed. Approximately 90% of the cases had no questions documented about food intake. It is proposed that an estimated 900 cases would be confirmed for Cycle One and cases interviewed would come to about 900 @ \$15 per questionnaire. (\$13,500 times 2 students) A funding request is being made to assist as needed the LHD and regional epidemiologist in focusing on food borne sources. Often it is not until we are advised of a PFGE match which is resulted as much as 10 days after the confirmed serotype that we learn a case is a PFGE match to a particular outbreak. We would like to question cases earlier about what they have eaten which is hard to do because of staffing patterns at various LHD (i.e one nurse, no ERRT team). There is presently an intern agreement available for use for the students and their service hours for payment can be purchase through the states' service contractual method.</p> | \$27,000 |

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| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| National Healthcare Safety Network (NHSN) Training | |
| This training is specific to hospital infection preventionists related to CDC Web-based database for reporting healthcare associated infections (HAIs). It requires Six 4 hour training opportunities held at multiple sites across the state to be conducted by the Medical Epidemiologist funded. It includes the following: | |
| ♦ Facility space rental (\$2,500 each site x 6) | \$15,000 |
| ♦ Education material (\$1,000 each site x 6) | \$6,000 |
| ♦ Cost for CEU offerings (\$1,000 each site x 6) | \$6,000 |
| ♦ Travel for program educators (\$500 x 6) (HAI) | \$3,000 |
| Total Funding requested: | \$30,000 |

Total Direct Costs

| | |
|------------------------|------------|
| Personnel | \$ 108,754 |
| Fringe Benefits | \$ 40,408 |
| Travel | \$ 3000 |
| Equipment | \$ 9038 |
| Supplies | \$ 2000 |
| Contractual Agreements | \$57,000 |
| Other | \$ 0 |
| Total Direct | \$ 220,200 |
| Indirect Costs | \$ 22,838 |

The indirect cost rate is 21% and is computed on the following direct salary cost of \$108,754 excluding benefits

Grand Total ACA Activity A (Cycle One) \$243,038

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BUDGET PERIOD 1- ACTIVITY B

| Personnel – Division of Laboratory Services | | | | | Total Amount |
|------------------------------------------------------------|--------------------------|---------------------------|----------------------|---------------|-----------------------------|
| Position Title & Name | Annual Salary | Fringe Benefit | % of Time | Months | Amount Requested |
| Laboratory Scientist In- Training – ELC Laboratorian | \$33,765 | \$15,072 | 100% | 10 | \$48,837 |
| Epidemiologist One – Lab Connector | \$39,688 | \$16,412 | 100% | 10 | \$56,100 |
| | Total: | | | | Total: |
| | \$73,453 | \$31,484 | | | \$104,937 |

❖ **Job Description: ELC Laboratorian**

This is for a flexible lab testing position directly under the lab director that has responsibilities which include multiple disease platforms (foodborne pathogens, HAI agents, respiratory agents, and vaccine preventable diseases).

❖ **Job Description: Lab Connector**

This is for a vacant position to fulfill outbreak investigation and support communication and integration between the laboratory, epidemiology, information technology, and other associated agencies including CDC.

Line Item Justification - Travel

This travel is to access training for the ELC laboratorian or Lab Connector in foodborne pathogens (Pulsenet Update), Norovirus (Calcinet User Group), and Respiratory agents (Virology Symposium).

| Travel – Division of Laboratory Services | Total Amount \$4,500 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Out-of-State Travel: <ul style="list-style-type: none">• Annual Virology Symposium• Calcinet User Group Meeting• Pulsenet Update | \$1,500 \$1,500 \$1,500 |

| Equipment – Division of Laboratory Services | Total Amount \$135,000 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| <ul style="list-style-type: none">▪ PFGE Equipment (Such as CHEF Mapper) <i>This is to allow for the expansion of foodborne pathogens and HAI outbreaks by PFGE and for support of Pulsenet reporting activities.</i>▪ Start up and supplies for flexible Nested PCR System (Such as GeneXpert System) <i>This is to start up a nested PCR system that can be used for HAI agents (such as MRSA, C. difficile, Vancomycin, Norovirus), Respiratory Agents, and Mycobacterium Tuberculosis</i>▪ Shaker Water Bath (PFGE) <i>Equipment to support continued PFGE testing.</i>▪ Centrifuge (PFGE) <i>Equipment to support continued PFGE testing.</i>▪ Electrophoresis unit (Norovirus) <i>This equipment is to begin DNA sequencing of Norovirus Genogroup GI and GII to enhance outbreak investigation.</i> | \$31,000 \$79,000 \$10,000 \$10,000 \$5,000 |

| Supplies – Division of Lab Services | Total Amount \$48,000 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ▪ PFGE Reagents (Foodborne & HAI organisms) <i>Required reagents for continued PFGE testing of foodborne pathogens and to expand testing to include HAI agents</i> ▪ Salmonella molecular subtyping reagents <i>Reagents to support the introduction of Salmonella molecular testing on the PCR/flow Cytometry instrument</i> ▪ PCR Reagents (HAI-MRSA, C.difficile) <i>Reagents to start up and support HAI agent testing on the nested PCR system</i> ▪ PCR Reagents (Campylobacter) <i>Reagents to start up and support Campylobacter testing</i> ▪ PCR reagents (Vaccine Preventable Diseases) <i>Reagents to support Bordetella Pertussis PCR testing and to expand to other vaccine preventable diseases</i> ▪ PCR Reagents (TB id & Drug Resistance) <i>Reagents to start up and support MTB and drug resistance testing on the nested PCR system</i> ▪ Norovirus supplies & sequencing reagents <i>Reagents to support continued Norovirus PCR testing and to begin expanding Norovirus testing to include DNA sequencing of Norovirus</i> ▪ Proficiency Tests <i>Additional proficiency testing necessary for validation and competency With expanded testing services including HAI, respiratory, and vaccine preventable diseases</i> | <p>\$7,000</p> <p>\$6,000</p> <p>\$6,500</p> <p>\$5,000</p> <p>\$10,000</p> <p>\$7,500</p> <p>\$5,000</p> <p>\$1,000</p> |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------|
| Contractual – Division of Laboratory Services | Months | \$40,000 |
| <ul style="list-style-type: none"> State-supported courier system for Pulsenet and other surveillance <i>Contract for Courier Service agreement and Implementation for state (selected sites) needed for the introduction of courier service to be used to transport isolates for PulseNet activities, respiratory agents, and other specimens.</i> | 10 | \$40,000 |

Construction\$0

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Other – Division of Laboratory Services | \$10,000 |
| <ul style="list-style-type: none"> Software – Bionumerics License (Calcinet) <i>Increased software with upgraded Bionumeric modules for increased data analysis and timely reporting to include additional foodborne pathogens, HAI agents, and Norovirus</i> | \$10,000 |

❖ **Total Direct\$342,437**

| | |
|-----------------|-----------|
| Personnel | \$ 73,453 |
| Fringe Benefits | \$ 31,484 |
| Travel | \$ 4,500 |
| Equipment | \$135,000 |
| Supplies | \$ 48,000 |
| Contractual | \$ 40,000 |
| Other | \$ 10,000 |

❖ **Indirect Cost\$15,426**

- The rate is 21% and is computed on the following direct salary cost of \$73,453 excluding benefits

❖ **Total Funds requested for Cycle One (10 Months)\$357,863**

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A. Travel.....\$ 16,100.00

Informatician and Lab Vocabulary Specialist to attend at least 2 of the recommended informatics training opportunities:

AMIA 10x10 : <https://www.amia.org/10x10>
(2 x \$2000.00 = \$4000.00)
HL7 Training: <http://www.hl7.org/implement/training.cfm>
(2 x \$3000.00 = \$6000.00)
LOINC: <http://loinc.org/faq/getting-started/getting-started/>
(Web Based \$25 x 4 = \$100.00)
APHL: <http://bit.ly/9jXDhZ>
(2 x \$500.00 = \$1000.00)
Lodging, airfare, parking, food
(2 persons x \$1000 = \$2000.00)

Additional training may be required as a result of the PHLIP Technical Assistance Team site visit which is scheduled for 9/21-9/24 at the Kentucky Division of Laboratory Services (DLS); therefore, **\$3000.00** is being requested pending the outcome of the PHLIP site visit.

The Informatician, after attending informatics training course(s) will provide key learning's/training overview to appropriate staff during scheduled meetings.

B. Equipment/supplies.....\$ 0
Equipment/ Supplies are not needed or required

C. Supplies.....\$0
Supplies are not needed required

D. Contractual.....\$ 271,753

Contracted staff.....\$ 140,580

Two (2) Division of Laboratory Services Staff Members

Informatician/PM (1) FTE (\$108, 900)

The Informatician must be experienced with working in the public health sector, preferably with experience working in the public health laboratory. The Informatician's role will be effective 11/1/2010. Informatician must have a minimum of 5 years of experience in surveillance and clinical electronic information systems, along with management and training expertise. The Informatician's responsibilities also include disseminating collected data to the development and implementation teams, and must have strong oral and written communication skills. The Informatician will facilitate the technological development and implementation teams, including Cabinet employees and contractors, in the collection, storage, retrieval, and analysis of data. Also, the Informatician will have the responsibility to assist in managing the project's cost, time, and scope of work to accomplish the objectives as specified in this application for funding.

Lab Vocabulary Specialist (1) 0.5 FTE (\$ 31,680)

The Lab Vocabulary Specialist role is positioned in the State Laboratory and will be responsible for identifying laboratory tests and data elements specific to electronic orders from hospitals, clinics and other healthcare facilities; identify lab results and data elements related to reportable diseases. Additionally, the Lab Vocabulary Specialist will coordinate participation on the PHLIP vocabulary and messaging workgroup and the CDC Vocabulary Community of Practice (VMCOP). Role may be expanded subject to outcome of the PHLIP review. The Lab Vocabulary Specialist role will be effective 11/1/2010. The ideal candidate for this position will have a laboratory background and must have experience HL7 messaging and exposure to LOINC language.

Fringe Benefits.....\$ 0

Not applicable – personnel are contracted staff

Activity C

(Reportable Disease filter)

Task

Est. Cost

Project management

\$10,000.00

The tasks related to project management on the KHIE to NEDSS implement the KHIE to NEDSS connection, including but not limited to assigning/monitoring all tasks and resources needed from the KHIE team to implement the KHIE to NEDSS connection as described in this proposal

Analysis: Rules for Reportable events

\$20,000.00

The KHIE business analyst will work with personnel from Division of Epidemiology and Division Laboratory Services to define the business rules related to Reportable events from state lab data. The design would be rules based and configurable so that additional rules can be added with no programming changes

Analysis: Message Structure **\$5,000.00**
The KHIE business analyst will work with personnel from Division of Epidemiology and Division of Laboratory Services to define the message structure of the messages coming from the state lab systems as well as the message structure to the NBS(NEDSS based system)

Analysis: Message Routing from KHIE to NEDSS **\$2,000.00**
Message Routing from KHIE to NEDSS : The KHIE Technical analyst will work with personnel from Division of Epidemiology and Division of Laboratory Services to define the message routing rules and mechanisms for the messages coming from the state lab systems as well as the to the NBS(NEDSS based system)

Development: Rules for reportable events **\$15,000.00**
The development staff at the KHIE will develop a rules based, configurable system for the **reportable filter** for reportable events to NEDSS (NBS) Note: see diagram at end of Activity C Section 3 (Reportable Disease filter budget)

Development: Message Routing **\$5,000.00**

The Interoperability team at the KHIE will develop the message routing rules in the Interoperability hub to accomplish the necessary routing of messages as defined in the business rules.

Development: Content Vocabulary **\$10,000.00**
The interoperability team will work with staff from the Division of Epidemiology and the Lab Vocabulary Specialist with the Division of Laboratory Services for the development of any content vocabulary and harmonization necessary to accomplish the business goal-transmission of Reportable diseases from the KHIE to NEDSS using a common vocabulary

Testing **\$10,000.00**

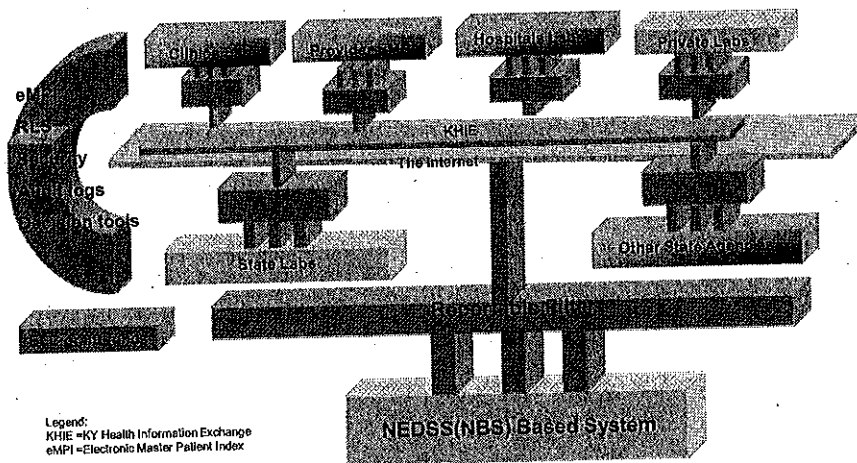
The Quality Assurance and Testing team at the KHIE will perform end to end testing as well as performance testing to ensure that the system works as designed and is robust and scalable

Implementation in production environment **\$5,000.00**

This activity includes all tasks related to implementation activities

to implement the software including code migration, communications, backup and restore processes, server monitoring configuration etc.

Conceptual View of the ELC grant funding



KHIE is built and maintained by ACS/ZEROX company, a fortune 500 company, with a 38 year history of innovation and experience in health care and a current leader in Health Information Exchanges.

Total **\$82,000.00**

Activity C
(Harmonization Budget):
Task

Project Setup **\$868.32**

The project setup task establishes the contract work parameters by requesting a contract extension and identifying additional work products to be delivered to KHA.

Analysis (Project Management) **\$1,302.48**

The first phase of the project will be focused on analysis of message content, structure, and routing needs. Project management related tasking provides the oversight for the analysis phase of this project and insures that all factors are evaluated appropriately

during this phase.

Analysis: Content Vocabulary **\$8,487.84**

This task provides the support for research and analysis of message content and used vocabularies. Local or facility-specific test and result codes have to be identified and later mapped to NBS-compliant VADS code and value systems.

Analysis: Message Structure **\$1,736.64**

The target message structures for a successful NBS integration, likely the structure found in HL7 2.3.1 ELR specification and the PHCD XML schema, need to be researched and analyzed. This task provides the support for full comprehension of target message structures.

Analysis: Message Destination Routing **\$1,736.64**

This task provides the support for the research and specification of the best approach for routing messages to NBS

Development (Project Management) **\$1,953.72**

The second phase of the project is dedicated to the development of software components allowing for modifying message content, transforming messages to target structures, and creating routing support. Project management related tasking provides the oversight for the development phase of this project and insures that all factors are evaluated appropriately during this phase.

Development: Message Transformation **\$2,604.96**

This task is the actual development of code artifacts and software components required to transform message structures to be compatible with and acceptable to the NBS System

Development: Message Destination Routing

Following the analysis of a best approach to routing messages to the NBS system this task represents the actual development of the code artifacts required to route existing messages

\$1,736.64

Development: Content Vocabulary **\$10,419.84**

This task supports the development efforts to

create code artifacts and software components required to harmonize the disparate vocabulary elements in hospital laboratory messages to NBS-compatible format

Testing

\$2,604.96

The third phase of the project is dedicated to testing code artifacts and software components As designed in phase one and as developed in phase two. Project management related tasking provides the oversight for the testing phase of this project and ensures that all factors are evaluated appropriately during this phase.

Testing: Message Transformation

\$6,751.20

Following the development of message transformation rules, this task includes of testing and validation of code artifacts and software components. Testing will insure that hospital-based messages are transformed to message structures compatible with and acceptable to the NBS system.

Testing: Message Vocabulary

\$6,751.20

This task provides the testing and validation of the message content, including verification of harmonized codes that are NBS-compliant (correct VADS code and value system)

Implementation (Project Management)

\$868.32

The final phase of the project is dedicated to implementing new software components across all hospital installations. Project management related tasking provides the oversight for the implementation phase of this project and insures that all factors are evaluated appropriately during this phase.

Implementation: Installation

\$1,350.24

This task provides the preparation for and execution of installation. The installation and upgrade steps to implement the project's enhancements in the production environment Will be identified and executed prior to a validation of all installation to assure operational stability across.

Total **\$49,173.00**

Total Activity C Budget Request... \$287, 853



CABINET FOR HEALTH AND FAMILY SERVICES

Steven L. Beshear
Governor

Governor's Office of Electronic Health Information
Jeff Brady, Executive Director
275 E. Main Street, 4W-A
Frankfort, KY 40602
Phone: (502) 564-7882
Fax: (502) 564-0302

Janie Miller
Secretary

FAX COVER SHEET

TO:

Peggy Ellis, Epidemiologist
Kentucky Dept. Public Health
Division of Epidemiology and Health Planning
275 East Main St., HS2E-A
Frankfort, KY 40621

FROM:

Deborah Boone
GOEHI
564-7992 Ext. 2800

RE:

COPY
Letter of Support – ELC Grant
Jeff Brady, Executive Director

NUMBER OF PAGES TO FOLLOW: 1



CABINET FOR HEALTH AND FAMILY SERVICES

Steven L. Beshear
Governor

Governor's Office of Electronic Health Information
Jeff Brady, Executive Director
275 E. Main Street, 4W-A
Frankfort, KY 40602
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Janie Miller
Secretary

August 24, 2010

William D. Hacker, MD, FAAP, CPE
Commissioner for Public Health
Cabinet for Health and Family Services
275 East Main Street HS1GW-A
Frankfort, KY 40621

Dear Dr. Hacker:

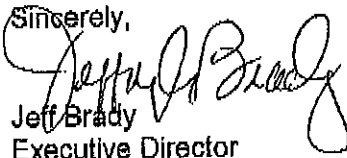
On behalf of the Governor's Office of Electronic Health information (GOEHI), I am pleased to provide this letter of support for the Department for Public Health, Division of Epidemiology and Health Planning grant application to the Centers for Disease Control and Prevention.

As the State Designated Entity for the State Health Information Exchange Cooperative Agreement with the Office of the National Coordinator, GOEHI is in the process of piloting the technical architecture that will support statewide health information exchange. The federated model will support the electronic exchange of health information, including public health registries, and other public and population health functions. It also will provide access to an electronic health record (EHR) "lite" product for healthcare providers who lack an EHR system. To this end, we welcome the participation of the Department for Public Health, Division of Epidemiology and Health Planning in the Kentucky Health Information Exchange (KHIE) and the opportunity that the KHIE affords to building and strengthening epidemiology, laboratory and health information systems capacity in state and local health departments, through electronic data exchange, which fits well within these objectives. We fully support the Department for Public Health, Division of Epidemiology and Health Planning's efforts to increase and strengthen outbreak surveillance and investigation related to foodborne and health care associated infections in the state of Kentucky.

GOEHI recognizes the paramount need for additional epidemiologists, laboratory personnel, reagents and supplies for training and education in foodborne and HAI outbreaks to local health department, hospital and other staff, as needed, throughout the state of Kentucky. We are committed to working with the Department for Public Health, Division of Epidemiology and Health Planning to further the expansion of access to electronic data sources at the local and state level and support connectivity to the National Health Information Network (NHIN).

I offer our support and encouragement of this grant opportunity. We are very excited to partner with you in this worthy endeavor.

Sincerely,


Jeff Brady
Executive Director



CABINET FOR HEALTH AND FAMILY SERVICES

Steven L. Beshear
Governor

Governor's Office of Electronic Health Information
Jeff Brady, Executive Director
275 E. Main Street, 4W-A
Frankfort, KY 40602
Phone: (502) 564-7992
Fax: (502) 564-0302

Janie Miller
Secretary

August 24, 2010

William D. Hacker, MD, FAAP, CPE
Commissioner for Public Health
Cabinet for Health and Family Services
275 East Main Street HS1GW-A
Frankfort, KY 40621

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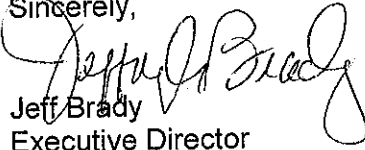
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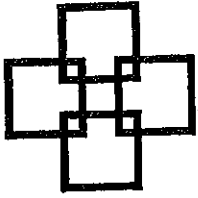
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Sincerely,


Jeff Brady
Executive Director





Kentucky Hospital Association

Representing Kentucky Health Care Organizations

August 23, 2010

Michael T. Rust
President

William D. Hacker, MD, FAAP, CPE
Commissioner for Public Health
Cabinet for Health and Family Services
275 East Main Street HS1GWA
Frankfort, Kentucky 40621

Dear Dr. Hacker,

I would like to offer our support to standardize electronic laboratory reporting for reportable diseases consistent with *Building and Strengthening Epidemiology, Laboratory and Health Information Systems Capacity in State and Local Health Departments*, funding announcement CDC-RFA-CI10-1012.

Our role in this partnership will be to enter in to a contractual agreement with the Kentucky Department for Public Health, through our affiliate the Kentucky Hospital Research and Education Foundation (KHREF), to leverage our state-of-the-art ELR reporting system to assist you in meeting your stated objectives for hospital-based laboratory reporting.

Sincerely,

Michael T. Rust, FACHE
President and CEO
Kentucky Hospital Association